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March 27, 2018

Ms. Kathleen Meier
Remedial Project Manager
U.S. EPA, SR-6J
77 West Jackson Boulevard
Chicago, IL 60604-3590

**RE: 2017 Annual Report
Powell Road Landfill
U.S. EPA Docket No. V-W-98-C-466 & V-W-98-C-465**

Dear Ms. Meier:

Transmitted with this letter, on behalf of Waste Management, is one copy of the 2017 Annual Report for the Powell Road Landfill. A pdf copy also is included on the enclosed disk.

A copy was sent directly to Scott Glum at Ohio EPA.

If you have any questions regarding this submittal, please contact Robin Jones at (937) 318-5342 or email rjones2@wm.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen J. Champa".

Stephen J. Champa, PG
Associate Hydrogeologist

SJC/kj

encl.

cc: Robin Jones, WM Project Manager (2 copies)
Mr. Scott Glum, OEPA/SWDO/DERR, per UAO V-W-98-C-466 (1 copy)
Thomas Miller, WM Landfill Technician (1 copy)

2017 ANNUAL REPORT POWELL ROAD LANDFILL

Prepared for:

WASTE MANAGEMENT OF OHIO, INC.

Prepared by:

EAGON & ASSOCIATES, INC.
Worthington, Ohio

March 2018

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TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION.....	1-1
2.0 ENVIRONMENTAL COVENANT	2-1
3.0 SITE SECURITY.....	3-1
3.1 Inspection.....	3-1
3.2 Corrective Action.....	3-1
4.0 FINAL COVER.....	4-1
4.1 Description.....	4-1
4.2 Maintenance.....	4-1
4.3 Inspection.....	4-2
4.4 Corrective Action.....	4-2
5.0 SURFACE-WATER DRAINAGE CONTROL AND FLOOD PROTECTION	5-1
5.1 Description.....	5-1
5.2 Maintenance.....	5-1
5.3 Inspection.....	5-2
5.4 Corrective Action.....	5-3
6.0 LANDFILL LIQUID/CONDENSATE MANAGEMENT SYSTEM AND COMPRESSED AIR SUPPLY SYSTEM	6-1
6.1 Description.....	6-1
6.2 Operation.....	6-2
6.2.1 Pneumatic Pumps	6-2
6.2.2 Air Compressor	6-2
6.2.3 Liquid Collection Tank	6-2
6.2.4 Auto-Dialer.....	6-2
6.2.5 LCS Well.....	6-3
6.3 Maintenance.....	6-3
6.4 Inspection.....	6-3
6.5 Corrective Action.....	6-4
6.6 Liquid Levels	6-5
6.6.1 Monitoring.....	6-5
6.6.2 Corrective Action	6-5
6.7 Landfill Liquid Volume Monitoring.....	6-5
6.8 Landfill Liquid Quality Monitoring.....	6-5
7.0 LANDFILL GAS MANAGEMENT SYSTEM.....	7-1
7.1 Description.....	7-1
7.2 Operation.....	7-1
7.2.1 Normal Operation.....	7-1
7.2.2 Downtime	7-2

TABLE OF CONTENTS

7.3	Maintenance	7-2
7.3.1	Landfill Gas Header	7-3
7.3.2	Valves.....	7-3
7.3.3	Flare.....	7-3
7.3.4	Blower	7-4
7.4	Inspection	7-4
7.5	Corrective Action.....	7-5
8.0	LANDFILL GAS MIGRATION MONITORING SYSTEM	8-1
8.1	Description.....	8-1
8.2	Inspection.....	8-2
8.3	Corrective Action.....	8-2
8.4	Monitoring	8-2
8.4.1	Sampling.....	8-3
8.4.2	Results	8-3
8.4.3	Corrective Action	8-3
9.0	GROUNDWATER MONITORING SYSTEM.....	9-1
9.1	Description.....	9-1
9.2	Inspection.....	9-2
9.3	Corrective Action.....	9-3
9.4	Monitoring	9-3
9.4.1	Sampling.....	9-3
9.4.2	Results	9-3
9.4.3	Conclusions	9-3
10.0	EVALUATION OF THE REMEDIAL ACTION	10-1
10.1	Introduction.....	10-1
10.2	Evaluations.....	10-1

FIGURES

- Figure 1. Landfill Gas/Liquid Extraction system
Figure 2. Monitoring System

APPENDICES

- Appendix A. 2017 Semiannual Progress Reports
Appendix B. Post-Closure Quarterly Inspection Forms (and Related Systems Inspection and Maintenance Forms)
Appendix C. Environmental Covenant Verification
Appendix D. Auto-Dialer Call Out Summaries, Downtime Reports, and Auto-Dialer Protocol
Appendix E. Landfill Gas and Condensate Collection Systems Maintenance Summary Reports

TABLE OF CONTENTS

- Appendix F. Blower/Flare Station Data Sheets
- Appendix G. Liquid Hauling Data
- Appendix H. Landfill Liquid Analytical Data Summary
- Appendix I. Wellfield Monitoring Data
- Appendix J. Sierra Monitor Inspection Reports
- Appendix K. Gas Probe Monitoring Reports
- Appendix L. Monitoring Well Integrity Reports
- Appendix M. Groundwater Quality Data Summaries

1.0 INTRODUCTION

This report is the 2017 Annual Report for Powell Road Landfill (PRL) in Montgomery County, Ohio. Included in this report are data on systems operation and maintenance, system and facility inspections, corrective actions, monitoring events and sampling results, and an evaluation of the effectiveness of each of the remedial action components.

On December 9, 2014, U.S. EPA requested that a pilot test be performed to investigate the ability of monitored natural attenuation (MNA) to control contamination in the shallow zone groundwater downgradient of PRL during suspension of landfill liquid collection. A work plan for MNA evaluation during the pilot test (Work Plan for MNA Evaluation, Eagon & Associates, Inc.) was submitted to U.S. EPA on January 16, 2015. The work plan was approved by U.S. EPA on January 27, 2015 and the landfill liquid extraction system was shut down on February 3, 2015.

Pursuant to the approved Remedial Design documents and the approved Operation and Maintenance (O&M) Plan, the remedial action components covered in this Annual Report include:

- Site Security,
- Landfill Cover,
- Surface-Water Controls,
- Landfill Gas Extraction/Treatment,
- Landfill Liquid/Condensate Extraction and Storage,
- Landfill Gas Monitoring, and
- Groundwater Monitoring.

Remedial Action (RA) activities at PRL were conducted in accordance with the approved Powell Road Landfill O&M Plan, March 2013 revision and the Work Plan for MNA Evaluation, January 2015. Semiannual RA Progress Reports were prepared by Waste Management and were submitted to U.S. EPA and Ohio EPA per the requirements of UAO's, V-W-98-C-466 and V-W-

98-C-465 and per the frequency approved by U.S. EPA on May 10, 2004. Copies of the semiannual reports are included in Appendix A. Quarterly inspections were performed in March 2017; June 2017; September 2017; and November 2017. Copies of the quarterly inspection reports are included in Appendix B of this annual report.

2.0 ENVIRONMENTAL COVENANT

A new Environmental Covenant (EC) was developed for the Powell Road Landfill in 2010. The EC was recorded with the Montgomery County Recorder's office on September 29, 2010. A copy of the recorded EC was submitted to U.S. EPA on October 22, 2010. The Owner or any Transferee shall submit to U.S. EPA on an annual basis written documentation verifying that the activity and use limitations remain in place and are in compliance with this Environmental Covenant. The annual EC verification for 2017 is included in Appendix C. As of this date the activity and use limitations remain in place and are in compliance with the EC.

3.0 SITE SECURITY

Site access is controlled by perimeter fencing. All fencing has three strands of barbed wire on the top. The vehicle site entrance from Powell Road is secured with gates and locks. All other access points are gated and locked. Signs are posted on all gates and at 150-foot intervals along the perimeter fence as a warning to potential trespassers. Quarterly inspections must include identification of fencing, barbed wire, gates, locks, and signs that require repair or replacement. Repairs are to be made as soon as practical after discovery.

3.1 Inspection

The site security systems were inspected once per quarter in 2017. Site security items that were inspected included condition of perimeter fencing, presence and condition of signs posted on gates and perimeter fencing, security of the site access road, and whether undesirable uses of the property were being prevented. The quarterly inspection forms are included in Appendix B.

For all four quarters, the inspectors determined that the security systems were performing as intended. Minor damage to a section of perimeter fencing along Powell Road was noted during the first quarter of 2017. The first quarter 2017 inspection noted that a section of fence along the river on the south side was leaning due to fallen branches. The fence was still intact and site security was not affected. The damage to the fencing along Powell Road and the south perimeter were repaired in the second quarter of 2017. There was no evidence of other damage to site systems or other unauthorized use of the property associated with these incidents.

3.2 Corrective Action

- 404 feet of fencing along Powell Road was proactively replaced due to age.
- Damaged fencing along Powell Road and other areas of the site were repaired on June 1, 2017.

4.0 FINAL COVER

4.1 Description

The PRL landfill cover is constructed over the waste mass. The constructed landfill cover system includes (from bottom to top):

- A low permeability, compacted, soil barrier layer, with a minimum compacted thickness of 24 inches, constructed to limit surface-water infiltration into the waste mass,
- A grading layer placed over the soil barrier layer in areas where the surface of the placed/existing barrier grades were less than the required minimum 3 percent grade,
- A 12-inch thick granular drainage layer to drain infiltrated surface water off the soil barrier and grading layers to prevent unstable soil conditions from developing,
- A geotextile layer, placed over the granular drainage layer, to prevent overlying soils from clogging the drainage layer, and
- An 18-inch thick vegetative soil layer designed to sustain plant growth, reduce erosion, promote drainage, and provide frost protection.

4.2 Maintenance

Annual maintenance of the final cover system consists of mowing the grass. The landfill was mowed in July and September of 2017.

4.3 Inspection

The final cover was inspected once per quarter in 2017. The purpose of the quarterly inspections is to identify and record on the inspection report any areas of sparse vegetation, areas where erosion has taken place in the form of surface scour or formation of rills or gullies, locations of any animal intrusions, and any areas which have settled enough to trap surface water.

Items evaluated and noted on the inspection form during quarterly inspections of the final cover include:

- Final cover erosion,
- Top slope good drainage,
- Side slope good drainage,
- Evidence of gas or landfill liquid, and
- Vegetation quality and density.

The quarterly inspections indicated no problems with regard to erosion and drainage and there was no evidence of gas or landfill liquid.

4.4 Corrective Action

No corrective actions were required during 2017.

5.0 SURFACE-WATER DRAINAGE CONTROL AND FLOOD PROTECTION

5.1 Description

The surface-water drainage control system consists of diversion swales on the final cover, perimeter drainage channels, culverts, and stone riprap. Ditches and channels are grass-lined and are designed to handle flow from a 25-year, 24-hour storm. Riprap is provided where surface-water velocities cannot be controlled by vegetation alone. Corrugated steel culverts are used where a perimeter channel must cross an access road.

Due to the proximity of the Great Miami River to the PRL, a flood protection system is necessary to protect the final cover system during flood events. The existing trees and vegetation surrounding the landfill and the vegetative cover of the landfill provide adequate erosion control for the 100-year flood and constitute the flood-protection mechanisms. Mature trees and brush that currently exist between the Great Miami River and the landfill reduce the velocity of floodwaters that might come in contact with the landfill. The vegetative cover installed on the landfill cap within the floodplain is a deep-rooted, flood-resistant seed mix. The root system of the established vegetative cover holds the landfill final cover soils in place during flooding.

5.2 Maintenance

The surface-water ditches and channels require mowing and, from time to time, reshaping to better control runoff. Ditches and channels are mowed on the same schedule as the landfill cover to control excess vegetation within the ditches. Ditches and channels are cleaned out as a corrective action when necessary. The ditches and channels were mowed in July 2017.

Corrective actions which may be required for the drainage-control/flood-protection system include periodic removal of silt, repair of gravel roadways, and repair of eroded grass channels. If erosion occurs repeatedly in a specific area, a design engineer may be consulted to determine if riprap is necessary. Any required final cover materials, riprap, vegetation, or

culverts shall be obtained and placed in accordance with Technical Specifications in Section 6.0 of the O&M Plan.

5.3 Inspection

The surface-water drainage-control/flood-protection system was inspected once per quarter in 2017. Inspection reports and Surface Water Control Inspection Logs are included in Appendix B.

Items evaluated and noted on the quarterly inspection forms for the surface-water drainage system are:

- Appropriate runoff controls,
- Diversion ditches,
- Perimeter ditches,
- Perimeter stone,
- Outlet structures, and
- Roads.

Items evaluated on the Surface-Water Control Inspection Log are:

- Erosion and sediment control measures,
- Stabilization/Non-structural practices including surface grading, vegetative cover, mulch, and channel riprap,
- Structural practices including silt fencing and ditch checks,
- Discharge locations checked for sediment buildup,
- Vehicles tracking sediment off-site, and
- Status of Previous Maintenance Activities.

5.4 Corrective Action

No corrective actions were required during 2017.

6.0 LANDFILL LIQUID/CONDENSATE MANAGEMENT SYSTEM AND COMPRESSED AIR SUPPLY SYSTEM

6.1 Description

The landfill liquid/condensate-extraction system consists of 3 liquid-extraction wells, 26 dual gas/liquid-extraction wells, well pumps, dual gas/liquid-header piping, three liquid/gas condensate-knockout sumps, two liquid/condensate-knockout pumps, force mains, a gravity liquid/condensate main, a liquid/condensate collection tank, and a load out facility and pump. Pneumatic pumps are installed in Knockouts 1 and 2 and those extraction wells which contain landfill liquid in sufficiently recoverable quantities as defined by the approved Remedial Design. Landfill liquid is pumped out of the wells and discharged into the dual gas/liquid header where it flows by gravity to one of three knockouts. At Knockouts 1 and 2, the accumulated liquid is pumped to a high point in the header piping system. From the high point, the liquid flows by gravity to Knockout 3. Landfill liquid/gas condensate flows by gravity from Knockout 3 to the site collection tank. In August 2012, a well (LCS Well) was installed to monitor groundwater elevations at the site. The well was equipped with a level sensor and alarm. The level sensor shuts down the flow of air to the extraction wells when the groundwater level in the LCS Well rises above 751 feet msl (i.e., during flood conditions) and reactivates the landfill liquid extraction system when the groundwater level recedes below 751 feet msl. The landfill gas and liquid extraction systems are shown on Figure 1.

Well pumps and knockout pumps are pneumatically powered. An air compressor and associated equipment is housed in the Air Compressor Building, shown on Figure 1, located near the Blower/Flare Station. From the compressor, a network of underground 2-inch diameter compressed air supply piping feeds each of the well and sump pumps.

On February 3, 2015, the MNA pilot test was initiated and the landfill liquid extraction system was shut down. The air compressor and pneumatic pumps at Knockouts 1 and 2 remain in operation to facilitate collection of landfill gas condensate. The level sensor in the LCS well has been disconnected from the OMNI control system during the pilot test.

6.2 Operation

6.2.1 Pneumatic Pumps

The knockout pumps and well pumps operate automatically when activated by liquid levels within the knockout or well. They are not expected to require adjustments to operate. The pump regulators are subject to freezing and need to be checked periodically during cold weather. The regulators and liquid discharge lines need to be thawed out, weather permitting, when they are found to be frozen.

6.2.2 Air Compressor

The air compressor is operated full-time when the liquid extraction system is in operation. All of the pumps are powered by compressed air. In the event of a high level alarm in the landfill liquid/condensate collection tank, the air compressor is automatically shut down to disable the pumps. Prior to the MNA Pilot Test, the air compressor also was shut down during flooding by the level sensor alarm in the LCS Well, when groundwater levels rose above 751 feet msl. at the LCS Well.

6.2.3 Liquid Collection Tank

The liquid collection tank contains level switches which signal the controller to activate notification lights and the auto-dialer. In the event of a high-level alarm, the controller shuts down the air compressor. The level switches, controls, and alarms for the liquid collection tank functioned properly in 2017 with routine maintenance.

6.2.4 Auto-Dialer

The auto-dialer notifies individuals of tank-level information (1/2-full, 3/4-full, or full), air compressor system shutdown, and flare system shutdown according to a pre-programmed call list and continues dialing until an individual acknowledges the call. The auto-dialer protocol was

revised in March 2015 and is included in Appendix D. The auto-dialer functioned properly in 2017.

6.2.5 LCS Well

The LCS well was taken offline on February 3, 2015 for the MNA pilot test and remained offline throughout 2017.

6.3 Maintenance

Maintenance for well pumps, knockout pumps, the air compressor, storage tank pump, auto-dialer, level switches, etc. is performed in accordance with the Maintenance Schedule in Appendix D of the O&M Plan or as maintenance requirements are identified during inspection or operation of the system. All maintenance is performed in accordance with the manufacturers' recommendations.

6.4 Inspection

The 30-year O&M Schedule included in Appendix D of the O&M Plan calls for quarterly inspections and checks of the landfill liquid management system, and for semiannual cleaning of the flame arrestor on the vent for the liquid/condensate collection tank, and semiannual inspection of the compressed air distribution piping system for signs of leakage. The required inspections and maintenance activities have been performed in accordance with the O&M plan in 2017. Landfill Systems Equipment Inspection Reports are included in Appendix B and Landfill Gas and Condensate Collection Systems Maintenance Summary Reports are included in Appendix E. Compressor and sump inspection information also is included on the Blower/Flare Station Data sheets in Appendix F.

The system components inspected, evaluated, and noted on the quarterly inspection forms in Appendix B for the landfill liquid/condensate management system and the compressed air supply system include:

- Collection sumps and risers,
- Electrical components,
- Liquid loading pad,
- Storage tank,
- Security of system,
- Flare/Blower operation,
- Extraction wells/pumps,
- Mechanical components,
- Gas probes,
- Evidence of odors/migration, and
- Auto-dialer.

Corrective actions are itemized in Section 6.5.

6.5 Corrective Action

- The heater in the compressor building was replaced in January 2017.
- The gas system was shut down for the month of February due to a leak in the air line to the condensate pumps. Valves were installed in the air line starting March 21, 2017 to isolate the damaged section of air line. Six isolation valves were installed and the damaged air line was determined to be in the northwest corner of the site.
- A cracked air line was repaired outside the compressor building in May 2017.
- The flare timer was reprogrammed to run continuously on July 7, 2017 due to issues with the flare not restarting after cycle shutdown.
- A leaking air regulator in the west sump was replaced on July 7, 2017.
- As part of the ongoing flare investigation both east and west sump pumps were pulled, cleaned and reinstalled on July 27, 2017. The air regulator in the east sump was also replaced.
- As part of the ongoing flare investigation a new board in the thermal instrument flow meter and a new data collector were installed on September 27, 2017.

6.6 Liquid Levels

6.6.1 Monitoring

The O&M requirement for quarterly monitoring of liquid levels in the extraction wells is temporarily suspended during the MNA Pilot Test. The extraction wells were inspected during quarterly inspections in 2017.

For background information on liquid-level monitoring prior to 2000 and information pertaining to initial pump installation and extraction pump operation and maintenance, refer to RA Technical Memorandum No. 7, "Leachate Pump Installations, Leachate Levels," dated January 11, 2000.

6.6.2 Corrective Action

No corrective actions were required in 2017.

6.7 Landfill Liquid Volume Monitoring

A monthly summary of the quantity of liquid hauled from PRL in 2017 is included in Appendix G. All liquid was removed from the site via tanker truck and was hauled by Veolia Industrial to the Valicor [formerly United Wastewater] Treatment Facility for disposal. The total amount of liquid removed from PRL in 2017 was 11,000 gallons. Only gas condensate was pumped to the tank during 2017.

6.8 Landfill Liquid Quality Monitoring

The required annual landfill liquid sample was collected and analyzed in May 2017 in accordance with Section 2.9 of the approved O&M Plan. Analytical results from the collection tank samples are summarized on Table H-1 in Appendix H. Only detected VOCs, SVOCs, pesticides, herbicides, and PCBs are listed on Table H-1. The collection tank sample was

analyzed for all the parameters of the approved reduced monitoring analyte list. The analytical data on Table H-1 show consistency in the parameters detected with some variation in the detected concentrations between events.

7.0 LANDFILL GAS MANAGEMENT SYSTEM

7.1 Description

Landfill gas (LFG) is collected from a network of 26 dual gas/liquid extraction wells. The design allows for simultaneous extraction of gas and landfill liquid from the landfill. A blower is used to create a vacuum within the headers and wells to extract the gas from the landfill. The collected landfill gas is conveyed through buried high-density polyethylene (HDPE) pipes (laterals) connected to a common buried main HDPE header. The landfill gas is conveyed to a flare for combustion. Condensate from the landfill gas extraction system is separated from the gas and combines with extracted liquid in three knockouts located at low points within the header system. The landfill gas and liquid extraction systems are shown on Figure 1.

7.2 Operation

The landfill gas extraction system includes the wells, wellhead assemblies, transmission piping and valves, blower, and flare. The landfill gas extraction system components need to be operated simultaneously to result in a balanced system.

7.2.1 Normal Operation

The gas/liquid extraction wells are required to be monitored quarterly for oxygen content, percent methane, differential pressure (to determine flow), gas temperature, cover settlement and desiccation, vegetative stress, and the physical condition of the wellhead. These measurements and observations are made in order to determine the overall physical condition and operating status of the gas well system.

Quarterly monitoring of the blower/flare station also is required for oxygen, methane content, gas temperature and flow rate, blower amps, flare temperature, and physical condition of

equipment. These measurements and observations are made in order to determine the overall physical condition and operating status of the blower/flare station.

The system was inspected, monitored, and adjusted by the Waste Management Landfill Technician quarterly in 2017. Appendix I contains the Wellfield Monitoring Data Reports for 2017. The reports document methane and oxygen concentrations, applied vacuum, and any adjustments made to the control valve for improving operations at each well. Blower/ Flare Station Data sheets are included in Appendix F. These reports document vacuum, percent methane, percent oxygen, and total system flow in cubic feet per minute (cfm) at the blower/ flare station. In the past, the flare was set to operate for 12 hours each day from 8:00 am to 8:00 pm. This operating cycle prevented flare outages due to insufficient gas flow and/or poor gas quality. In 2017 the flare has failed to consistently operate for the 12 hour cycles. Investigations are ongoing to determine if the problem is due to reduced gas production from the landfill or to some mechanical problem in the gas system.

7.2.2 Downtime

Monthly downtime reports for the gas extraction and liquid/condensate management systems are included in Appendix D.

7.3 Maintenance

Maintenance for landfill gas header valves, the flare, and blower is carried out in accordance with the O&M Plan, as identified during inspection or operation of the system, and in accordance with the manufacturer's recommendations.

The 30-year O&M schedule included in Appendix D of the O&M Plan calls for the flare stack to be drained, the blower to be lubricated, and several checks on the system to be performed quarterly. In addition, the flame arrestor is to be cleaned semiannually. These maintenance activities were carried out in 2017. Other maintenance activities were performed as necessary in 2017 as described on the Blower/Flare Station Data sheets in Appendix F.

7.3.1 Landfill Gas Header

Maintenance on the landfill gas header is expected to be minimal based on experience from other sites. The most typical concerns are crushing due to unexpected traffic or excavation, and water blockage due to settlement of waste. Since the landfill header is designed as a looped system, repair on an individual segment or leg would not impact the entire system. The repair area could be isolated by valves or temporary plugs. A landfill gas air line break was discovered and addressed in the first quarter of 2017 as mentioned in the first quarter Landfill Gas and Condensate Collection Systems Maintenance Summary Report in Appendix E.

7.3.2 Valves

The landfill gas transmission valves and valves at the wellheads are plastic. During inspections, the valve handles are turned to determine if each valve is operable. Excessive resistance could mean partial blockage of the valve. There were no operational problems with the valves in 2017.

7.3.3 Flare

Scheduled inspections of the flare are performed to monitor the physical condition of the stack metal and flame arrestor. The stack will be replaced when excessive corrosion or perforation of the metal stack is noted. No such deterioration has occurred. The flame arrestor is maintained in accordance with the manufacturer's requirements included in Appendix F-8 of the O&M Plan. During each inspection, the drain plug at the base of the flare stack was opened and any accumulated condensate was collected and disposed in the liquid/condensate collection tank.

Maintenance of the area near the pad on which the flare is mounted includes removal of vegetation/weeds by spraying or cutting. Weeds and vegetation were removed in 2017. Concrete surface maintenance is limited to repairs on an as-needed basis.

7.3.4 Blower

An Aerovent Model 26/6-HPB-3500-15 high pressure, fan-type blower provides vacuum extraction to the well field and discharges the gas to a Landfill Gas Specialties flare package model PCF61816 utility flare for thermal destruction. The O&M Manual for the flare system is included in Appendix F-8 of the PRL O&M Plan.

7.4 Inspection

The landfill gas management system was inspected at least once per quarter in 2017 and inspection reports are included in Appendix B. The inspections were performed to identify gas system components in need of repair. The inspections included observation and operation of all system components to identify any damage and verify optimal operation.

The components of the landfill gas management system noted on the quarterly inspection forms include:

- Electrical components,
- Mechanical components,
- Extraction wells,
- Flare/blower operation, and
- Security of system.

Maintenance on the extraction wells is described in Sections 6.5 and 6.6.2. Other than what is listed in section 7.5, no other deficiencies were noted on the quarterly inspection forms in 2017.

7.5 Corrective Action

- Flare cycling issues were identified in July 2017. Troubleshooting of the landfill gas and condensate system continued during the second half of 2017 in order to identify the problem. See section 6.5 and Appendices D and E for details on the cycle schedule.

8.0 LANDFILL GAS MIGRATION MONITORING SYSTEM

8.1 Description

The landfill gas migration monitoring system consists of one Sierra monitor within the compressor building and permanent gas monitoring probes near the property boundaries. The landfill gas monitoring system is shown on Figure 2.

Horizontal and vertical layout of the gas monitoring probes is based on site-specific geologic conditions. The gas probes are horizontally positioned outside the limits of waste and in line with off-site structures. Their depths were determined based on the estimated bottom of refuse elevation in the landfill and the groundwater elevation.

The landfill gas migration monitoring system includes six permanent gas monitoring probes (GP-1 through GP-6). These probes are located along the north and northeast perimeters of the landfill as shown on Figure 2. The installation of the six gas probes is documented in a report titled, “Perimeter Gas Monitoring Probe Construction Report,” February 2000, prepared by SCS Engineers, and is included in Appendix E of the Explosive Gas Monitoring Plan (March 2013).

The landfill gas migration monitoring system at Powell Road Landfill also includes one Sierra Model 2001 Combustible Gas Monitor located within the Compressor Building. The monitor continuously checks atmospheric concentrations of combustible gas with a trigger level of 1 percent v/v (20 percent LEL). If the trigger level is reached or exceeded, both audio and visual alarms alert the occupants to the presence of elevated levels of combustible gas within the structure. (Occupants would then follow the instructions included in the “Residential Emergency Procedure,” included in Appendix F of the Explosive Gas Monitoring Plan as Exhibit 10.)

8.2 Inspection

The landfill gas migration monitoring system was inspected at least once per quarter in 2017. The quarterly inspections were performed to identify any system components in need of repair. Inspection reports in Appendix B did not note any deficiencies. The Sierra Combustible Gas Monitor also was inspected quarterly and copies of the inspection forms are included in Appendix J.

8.3 Corrective Action

No corrective actions were required in 2017.

8.4 Monitoring

Landfill gas monitoring was performed in accordance with the approved explosive gas monitoring plan. Each monitoring station must be monitored at the following minimum frequencies:

1. Quarterly monitoring, for a minimum of 1 year following approval of the Explosive Gas Monitoring Plan.
2. Semiannually thereafter until released from the requirement by the Director of the Ohio EPA in accordance with OAC 3745-27-12(L) and with the approval of the U.S. EPA.

Gas monitoring at the site follows safety and procedural methods included in the “Standard Monitoring Procedures” portion of the Explosive Gas Monitoring Plan.

8.4.1 Sampling

Sampling of the landfill gas monitoring probes was performed quarterly in 2017. The following information was recorded:

1. Percent methane,
2. Gas pressure in the probe,
3. Water level in the probe,
4. Ambient barometric pressure, and
5. Observed weather conditions at the time of sampling.

The results are recorded on the Permanent Gas Probe Monitoring Reports included in Appendix K.

8.4.2 Results

Pressure readings ranging from -0.02 to 0.10 inches w.c. were recorded in 2017 as noted on the monitoring reports. No methane was detected and there were no alarms from the Sierra Combustible Gas Monitor.

8.4.3 Corrective Action

No corrective actions were required in 2017.

9.0 GROUNDWATER MONITORING SYSTEM

9.1 Description

The groundwater monitoring system at PRL consists of 19 monitoring wells for the collection of groundwater samples and five monitoring wells that are used only for measurement of groundwater levels. The monitoring well locations are shown on Figure 2.

Groundwater monitoring wells MW02AR, MW04AR, MW05AR, MW07AR, MW16A, MW17A, and MW18A are downgradient site monitoring wells completed in the shallow zone north of the Great Miami River. MW07AR is used only for water-level measurements. MW12A is an upgradient well completed in the shallow zone.

Monitoring wells MW02B, MW04BRR, MW05BR, MW16B, MW17B, and MW18B are downgradient monitoring wells completed in the primary aquifer north of the Great Miami River. Monitoring wells MW13B, MW13C, MW14B, MW15B, and MW15C are primary aquifer monitoring wells south of the Great Miami River (Eldorado Plat area). MW12B is the upgradient primary aquifer monitoring well.

Monitoring wells MW3S, MW3D, MW4S, and MW4D are shallow and deep primary aquifer well pairs that belong to the City of Dayton. These wells are used only for groundwater level measurements.

The purpose of the groundwater monitoring program is to generate data that can be used to evaluate the effectiveness of the containment components of the remedial action at reducing risks and achieving cleanup levels in the shallow zone groundwater adjacent to PRL. The program also monitors for changes in groundwater flow and potential migration of contaminated groundwater from the site.

9.2 Inspection

The groundwater monitoring system was inspected once per quarter in 2017 and the quarterly inspection forms are included in Appendix B. The purpose of the quarterly inspections is to identify any system components in need of repair.

Items evaluated during the quarterly inspections are:

- Construction integrity,
- Security of wells, and
- Identification of wells.

None of these items required attention during 2017.

The groundwater monitoring system was also inspected during groundwater monitoring events. Monitoring Well Integrity Reports are included in Appendix L for inspections conducted on May 1 and October 31, 2017. The report form includes 22 questions in four categories. The categories are:

- Location/Identification,
- Surface Seal,
- External Casing, and
- Internal Casing.

An explanation of items marked “X” on the inspection forms is included with each form in Appendix L. All items marked “X” were either unavoidable or done on purpose as explained in the appendix. There were no other items marked indicating damage or poor physical condition of groundwater monitoring wells in 2017.

9.3 Corrective Action

The groundwater monitoring system did not require any corrective action in 2017.

9.4 Monitoring

9.4.1 Sampling

Groundwater samples were collected from site groundwater monitoring wells in May and November 2017 in accordance with the site-specific Ground-Water Monitoring Plan (Appendix H to the O&M Plan). During each groundwater monitoring event, samples were collected and analyzed for the parameters required for regular semiannual monitoring and additional parameters for monitored natural attenuation.

9.4.2 Results

Groundwater quality results for the Powell Road Landfill are summarized on CD in Appendix M on Tables M-1 (VOCs), M-2 (Metals), and M-3 (Wet Chemistry Analytes). The validated data plus trend plots for the 2017 groundwater monitoring events were submitted to the Agencies in separate data reports. Non-CLP analyses were performed by TestAmerica (fka Severn Trent Laboratories). Data validation was performed by Eagon & Associates, Inc., in accordance with the "U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Superfund Methods Data Review" (January 2017), the "U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Methods Data Review" (January 2017), and the TestAmerica method SOPs.

9.4.3 Conclusions

The groundwater study report submitted to the Agencies in January 2003, along with the 2008, 2013, and 2018 updates demonstrate that the containment components of the remedial action, in conjunction with natural attenuation, have been and continue to be effective at

reducing concentrations of volatile organic compounds and inorganic constituents in groundwater downgradient of PRL. The results of the 2013 third five-year review by U.S. EPA supported the conclusions of the 2013 groundwater study report. A fourth five-year update to the groundwater study report was submitted to U.S. EPA in March 2018. Groundwater monitoring results from 2017 generally show declining or stable trends in VOC concentrations and reduction of overall groundwater risks.

10.0 EVALUATION OF THE REMEDIAL ACTION

10.1 Introduction

The purpose of this section is to report on the effectiveness of the remedial action components at meeting the design goals and protecting human health and the environment at Powell Road Landfill in 2017. The remedial action components covered in this Annual Report include:

- Site security,
- Final cover,
- Surface-water drainage and flood control,
- Landfill liquid/condensate management system,
- Landfill gas management system,
- Landfill gas migration monitoring, and
- Groundwater monitoring.

10.2 Evaluations

In this section, each of the above components is evaluated as to its effectiveness in meeting performance standards in 2017.

The site security system was effective at preventing undesirable access or use of the site. Minor damage to two sections of perimeter fence has not affected the integrity of the security of the site.

The final cover system was effective in reducing infiltration of surface water into the waste mass.

Surface-water drainage was maintained to effectively route water off the final cover system so that ponding did not occur and infiltration of surface water into the final cover was

minimized. The flood protection system was maintained to reduce the erosive effects of flooding of the Great Miami River on the landfill. Mature trees, brush, and grasses located between the landfill and the river were not disturbed or mowed in 2017 so as to maintain the natural buffers which reduce the velocity of flood waters that can come in contact with the landfill. The vegetative cover installed on the lower reaches of the landfill is a deep-rooted flood-resistant seed mix which was maintained in 2017 to hold the final cover soils in place during flooding.

The 2015 MNA pilot test, initiated at the request of U.S. EPA, was extended for the entire 2017 year. An MNA evaluation was submitted as part of the five year groundwater study report. Approximately 11,000 gallons of liquid (condensate) were removed from the PRL in 2017.

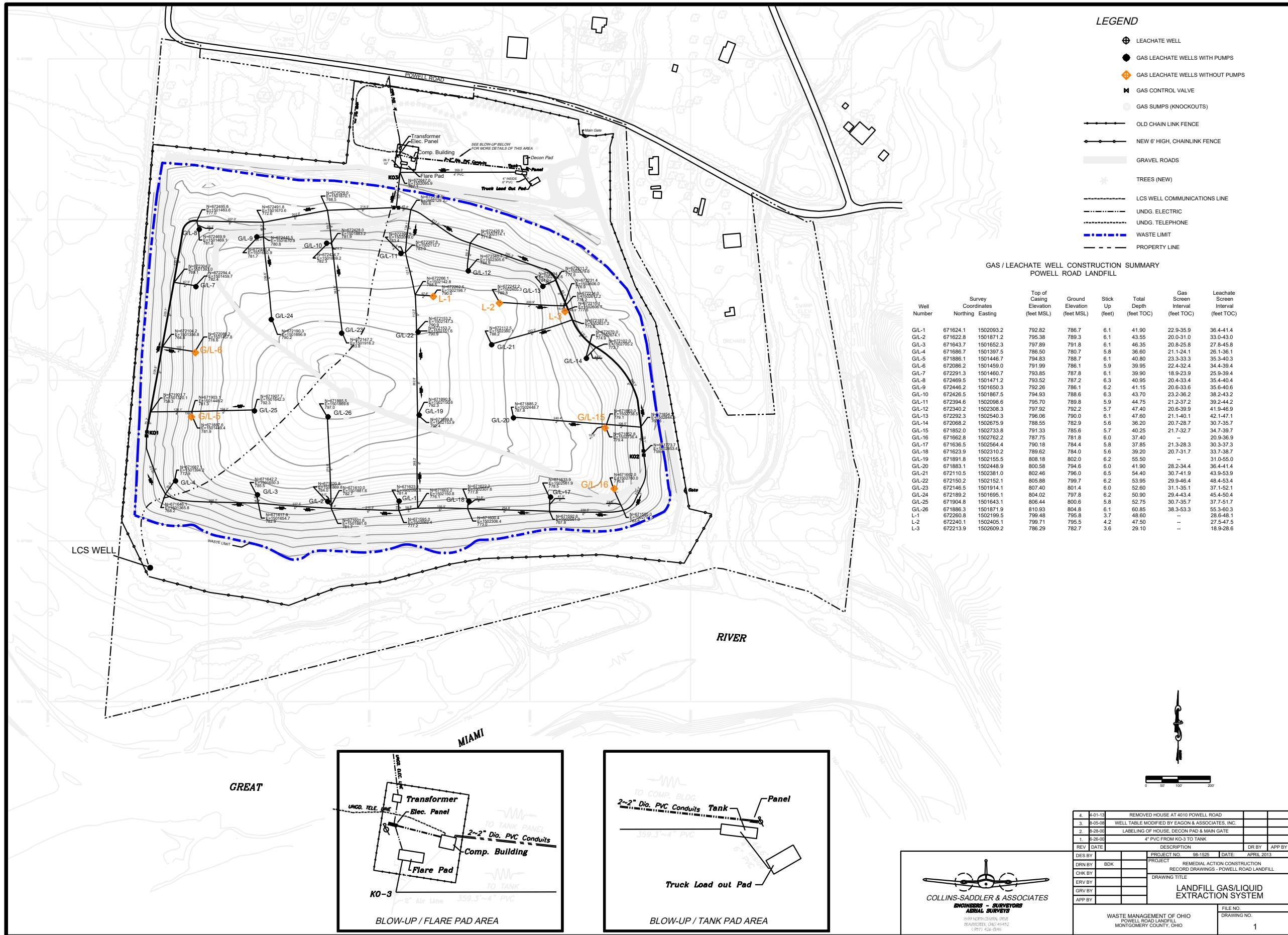
The landfill gas management system was maintained to effectively remove and combust landfill gas from the PRL such that migration of combustible concentrations of methane gas did not occur.

The landfill gas migration monitoring system was properly maintained and monitored in 2017. There were no methane detections at the gas monitoring probes and there were no alarms from the Sierra monitor.

The groundwater monitoring system was maintained and groundwater samples were collected and analyzed in May and November 2017 in accordance with the site-specific Groundwater Monitoring Plan. The update to the groundwater study report submitted to the Agencies in 2013 demonstrated that the containment components of the remedial action, in conjunction with natural attenuation, have been effective at reducing concentrations of VOCs and reducing overall risks in groundwater downgradient of PRL. The third five-year review by U.S. EPA in 2013 agreed with the conclusions of the groundwater study. A fourth five-year update to the groundwater study report was submitted to U.S. EPA in March 2018. Groundwater monitoring results from 2017 showed declining to stable VOC concentrations and reduction of risks from groundwater.

In summary, the remedial action components at Powell Road Landfill were effective at meeting the performance standards in 2017.

FIGURES





APPENDIX A.

2017 SEMIANNUAL PROGRESS REPORTS

**CLOSED SITE MANAGEMENT GROUP**

1700 North Broad Street
Fairborn, OH 45324
937 318 5342
855 287 0564 Fax

July 27, 2017

FEDERAL EXPRESS

Ms. Kathleen Meier
Remedial Project Manager
U.S. EPA, SR-6J
77 West Jackson Boulevard
Chicago, IL 60604

**SUBJECT: 2017 FIRST SEMI-ANNUAL PROGRESS REPORT
REMEDIAL ACTION
POWELL ROAD LANDFILL
U.S. EPA DOCKET NO. V-W-98-C- 466/465**

Dear Ms. Meier:

Pursuant to the above referenced Orders WMO is presenting you with the progress report for the Remedial Action O&M activities at the Powell Road Landfill. This report is for the period of January 1, 2017 thru June 30, 2017. This report was prepared per the requirements specified in the above referenced UAO's and per the frequency approved by USEPA on May 10, 2004.

**1.0 DESCRIPTION OF TASKS/ACTIONS PERFORMED IN ACCORDANCE WITH
UAO V-W-98-C-466 DURING THIS REPORTING PERIOD**

The following submittals were made:
02/15/17 – SA Progress Report
02/16/17 – SA GW Report
04/14/17 – Annual Report
04/17/17 – GW Sampling Notification

2.0 SUMMARY OF WORK COMPLETED (01/17-6/17)

The following occurred:

Quarterly inspection – 03/01/17
Qtrly gas probes – 03/1/17
1st SA GW event – 5/1-3/17
Quarterly inspection – 06/16/17
Qtrly gas probes – 06/16/17
Mowing – 07/17

LEACHATE SUMMARY	
January	0 gals
February	0 gals
March	0 gals
April	0 gals
May	11,000 gals
June	0 gals
Total	11,000 gals

GAS WELL TUNING	
1 Qtr	1/19/17
2 Qtr	5/12/17

The (03/01/17; 06/16/17) quarterly inspections and (01/19/17; 06/16/17) gas probe monitoring forms are attached. See attached system downtime and maintenance reports.

3.0 90 DAY SCHEDULE(S) WORK PLANNED (07/17-12/17)

The next semi-annual report submittal is in January 2018.

Qtrly inspection – 09/17
Qtrly gas probes – 09/17
Mowing – 09/17
2nd SA GW event – 11/17
Qtrly inspection - 12/17
Qtrly gas probes – 12/17
SA Progress Report – 01/18

4.0 SCHEDULE VARIANCES FROM APPROVED RA PROJECT SCHEDULE

No significant activity this reporting period.

5.0 SUMMARY OF GROUNDWATER ACTIVITY PER UAO V-W-98-C-465 DURING THIS PERIOD

No significant activity.

6.0 SUMMARY AND DISCUSSION OF ALL APPROVED AND UNAPPROVED CHANGES MADE IN THE RA DURING THIS PERIOD

WM turned off the leachate pumps at the extraction wells and began the MNA pilot study on February 3, 2015. The pilot study will continue for two years per the workplan.

7.0 SUMMARY OF PROBLEMS/DELAYS OR POTENTIAL PROBLEMS/DELAYS ENCOUNTERED DURING THIS PERIOD

As noted in the maintenance and inspection forms, the gas extraction system was not working during part of the first quarter due to an airline leak in the extraction field. The leachate extraction pumps are off due to the pilot study so this system was not affected by the air leak. The air is required; however, to operate the pumps in KO 1&2 otherwise the knock out liquid levels raise enough to cut off the vacuum to the flare. We isolated the broken area in the NW corner from the remainder of the system in March. During the second quarter the flare operated inconsistently during the 12-hour cycle period.

8.0 ACTIONS BEING TAKEN TO RECTIFY PROBLEMS/DELAYS

See attached downtime and maintenance reports.

9.0 CHANGES IN PERSONNEL DURING THIS REPORTING PERIOD

No changes in personnel.

10.0 PROJECTED WORK FOR THE NEXT REPORTING PERIOD

See items in Section 3 above.

11.0 COPIES OF REPORTS AND SAMPLING RESULTS GENERATED DURING THIS PERIOD

See attached downtime, gas and quarterly inspection reports.

Please contact Robin Jones regarding this submittal at 937-318-5342 or at rjones2@wm.com.

Respectfully,



Robin L. Jones
District Manager
WM Closed Sites
Powell Road Landfill Project Coordinator

attachment

cc. Scott Glum, OEPA/SWDO/DERR
PRL Distribution

**CLOSED SITE MANAGEMENT GROUP**

1700 North Broad Street
Fairborn, OH 45324
937 318 5342
855 287 0564 Fax

February 28, 2018

FEDERAL EXPRESS

Kathleen Meier
Remedial Project Manager
U.S. EPA, S-6J
77 West Jackson Boulevard
Chicago, IL 60604

**SUBJECT: 2017 SECOND SEMI-ANNUAL PROGRESS REPORT
REMEDIAL ACTION
POWELL ROAD LANDFILL
U.S. EPA DOCKET NO. V-W-98-C- 466/465**

Dear Kathleen:

Pursuant to the above referenced Orders WMO is presenting you with the progress report for the Remedial Action O&M activities at the Powell Road Landfill. This report is for the period of July 1, 2017 thru December 31, 2017. This report was prepared per the requirements specified in the above referenced UAO's and per the frequency approved by USEPA on May 10, 2004.

**1.0 DESCRIPTION OF TASKS/ACTIONS PERFORMED IN ACCORDANCE WITH
UAO V-W-98-C-466 DURING THIS REPORTING PERIOD**

The following submittals were made:
07/27/17 – SA Progress Report
07/11/17 – SA GW Report
08/29/17 – AOS Invoice Payment
10/06/17 – GW Sampling Notification
11/29/17 – 2013 GW Study Report

2.0 SUMMARY OF WORK COMPLETED (07/17-12/17)

The following occurred:	Quarterly inspection – 09/27/17 USEPA Five Yr Insp – 10/19/17 2nd SA GW event – 11/02/17 Quarterly inspection – 11/14/17
-------------------------	---

LEACHATE SUMMARY	
July	0 gals
August	0 gals
September	0 gals
October	0 gals
November	0 gals
December	0 gals
Total	0 gals

GAS WELL TUNING	
3 Qtr	<i>No well tuning</i>
4 Qtr	<i>No well tuning</i>

The (09/27/17; 11/14/17) quarterly inspections and (09/27/17; 11/14/17) gas probe monitoring forms are attached. See attached system downtime and maintenance reports.

3.0 90 DAY SCHEDULE(S) WORK PLANNED (01/18-06/18)

The next semi-annual report submittal is in July 2018.

SA GW Report MNA Evaluation – 02/12/18
EQuIS data submittal – 02/7/18
2018 GW study update - 03/18
Qtrly inspection – 03/18
Qtrly gas probes – 03/18
Annual Report – 03/18
1st SA GW event – 05/18
Qtrly inspection - 06/18
Qtrly gas probes – 06/18
SA Progress Report – 07/18

4.0 SCHEDULE VARIANCES FROM APPROVED RA PROJECT SCHEDULE

No significant activity this reporting period.

5.0 SUMMARY OF GROUNDWATER ACTIVITY PER UAO V-W-98-C-465 DURING THIS PERIOD

No significant activity.

6.0 SUMMARY AND DISCUSSION OF ALL APPROVED AND UNAPPROVED CHANGES MADE IN THE RA DURING THIS PERIOD

WM turned off the leachate pumps at the extraction wells and began the MNA pilot study on February 3, 2015. The system is still turned off pending the findings of the pilot study.

7.0 SUMMARY OF PROBLEMS/DELAYS OR POTENTIAL PROBLEMS/DELAYS ENCOUNTERED DURING THIS PERIOD

There are no significant operational issues. The flare; however, will not operate consistently in the cycling mode. The Gas Operations Manager at WM and Tom Miller, Landfill Supervisor, are currently collecting landfill gas field data and flare data to determine why the flare will not operate consistently in the cycling mode. WM is periodically operating the flare [no cycling] to collect data. It will run for a typical range of 4-7 days and then shutdown. The findings from the investigation will be summarized and used to tweak the system and make recommendations. Please note that the six gas probes have not shown any measurable methane levels during this time period.

8.0 ACTIONS BEING TAKEN TO RECTIFY PROBLEMS/DELAYS

See attached reports and section 7.0.

9.0 CHANGES IN PERSONNEL DURING THIS REPORTING PERIOD

No changes in personnel.

10.0 PROJECTED WORK FOR THE NEXT REPORTING PERIOD

See items in Section 3 above.

11.0 COPIES OF REPORTS AND SAMPLING RESULTS GENERATED DURING THIS PERIOD

See attached downtime, gas and quarterly inspection reports.

Please contact Robin Jones regarding this submittal at 937-318-5342 or at rjones2@wm.com.

Respectfully,



Robin L. Jones
District Manager
WM Closed Sites
Powell Road Landfill Project Coordinator

attachment

cc. Scott Glum, OEPA/SWDO/DERR
PRL Distribution

APPENDIX B.

POST-CLOSURE QUARTERLY INSPECTION FORMS (AND RELATED SYSTEMS INSPECTION AND MAINTENANCE FORMS)

POST-CLOSURE QUARTERLY INSPECTION FORM
Powell Road Landfill

Date:	3/1/2017	Last Inspection Date:	12/5/2016
Landfill Type:	Closed Municipal/CERCLA	Evaluator:	TOM MILLER
Total Acreage: 76	76	Filled Acreage:	38
Date Closed: 1984	1984	Date Capped:	1985 - 2000

	GOOD	ADEQUATE	ATTENTION	NOT APPLICABLE
SECURITY & ACCESS:				
1. Perimeter Fencing		✓		
2. Signs Posted	✓			
3. Access Road	✓			
4. Undesirable Uses Prevented	✓			
COVER & VEGETATION:				
1. Final Cover Erosion	✓			
2. Top Slope Good Drainage	✓			
3. Side Slope Good Drainage	✓			
4. Evidence of Gas or Leachate	✓			
5. Vegetation Quality & Density	✓			
DRAINAGE:				
1. Appropriate Runoff Controls		✓		
2. Diversion Ditches		✓		
3. Perimeter Ditches		✓		
4. Perimeter Stone		✓		
5. Outlet Structures		✓		
6. Roads	✓			
GW MONITORING WELLS:				
1. Construction Integrity	✓			
2. Security of Wells	✓			
3. Identification of Wells	✓			
LEACHATE & GAS SYSTEMS:				
1. Collection Sumps/Risers	✓			
2. Electrical Components	✓			
3. Leachate Pad Loading	✓			
4. Storage Tank	✓			
5. Security of System		✓		
6. Flare/Blower Operation	✓			
7. Extraction Wells/Pumps		✓		
8. Mechanical Components	✓			
9. Gas Probes	✓			
10. Evidence of Odors/Migration	✓			
10. Autodialer	✓			

COMMENTS: see maintenance page for system updates

Fence, Signs, Gates, and Locks Inspection Sheet

Landfill Identification:	Powell Rd	Landfill Owner/Client:	Robin Jones
Technician:	TOM MILLER	Landfill Location:	Huber Heights
Date of Inspection:	March 1, 2017		

Property Perimeter Fence Inspection Data:	Yes	No	Comments
Are all fence posts straight & free of damage:		✓	See Below
Are all fence panels in good condition (no breaks in the fence):	✓		No Comments
Are all fence panels securely fastened to all fence posts:	✓		No Comments
Does the fence have barb wire runners installed atop the fence:	✓		No Comments
If so, are all barb wire hangers in good condition and in place:	✓		No Comments
And are all barb wire strands in good condition and in place:	✓		No Comments
Are there any signs of trespassing:		✓	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		✓	No Comments
Are all required signs attached to the fence in 150 ft intervals:	✓		No Comments
Are all signs clearly legible and in good condition:	✓		No Comments
Are all fence panels and barb wire runners clear of vegetation:	✓		No Comments
Flare / UST Station Fence Inspection Data:	Yes	No	Comments
Are all fence posts straight & free of damage:	✓		No Comments
Are all fence panels in good condition (no breaks in the fence):	✓		No Comments
Are all fence panels securely fastened to all fence posts:	✓		No Comments
Does the fence have barb wire runners installed atop the fence:	✓		No Comments
If so, are all barb wire hangers in good condition and in place:	✓		No Comments
And are all barb wire strands in good condition and in place:	✓		No Comments
Are there any signs of trespassing:		✓	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		✓	No Comments
Are all required signs attached to the fence in 150 ft intervals:	✓		No Comments
Are all signs clearly legible and in good condition:	✓		No Comments
Are all fence panels and barb wire runners clear of vegetation:	✓		No Comments
Man way and Main Site Entrance Gates Inspection Data:	Yes	No	Comments
Are all gates in good condition:	✓		No Comments
Are all gate hinges in good condition:	✓		No Comments
Do all gates close completely and evenly:	✓		No Comments
Are all gates locked only with approved site locks:	✓		No Comments
Are all security chains heavy duty & in good condition:	✓		No Comments
Are all security chains tightly wrapped twice around the gate & the support pole:	✓		No Comments
Are all required signs attached to the main entrance site gate(s):	✓		No Comments
Are all required signs attached to the man way gate(s):	✓		No Comments

Additional Comments:
Fence along river is leaning due to trees falling but are not in need of repair at this time
Minor damage to fence along powell rd. Repairs planned for 2Q.

SURFACE WATER CONTROL INSPECTION LOG

Date Filed: _____

Ohio EPA Storm Water Construction General Permit No. _____,
Powell Road Landfill, Montgomery County, Ohio

Date of Inspection: 3/1/2017

Name of Inspector & Title: TOM MILLER-LANDFILL SUPERVISOR

Affiliation: WM EMPLOYEE

Qualifications _____

Weather Conditions: 50 wet

Completely fill in the information required below and sign where noted. Forward to Remedial Project Manager for filing.

1. Are measures to prevent erosion and sediment control adequate and properly implemented: YES
(If no, describe observations, repairs needed, design changes needed, or other actions below.)
2. Are non structural practices (surface grading, vegetative cover, mulch, channel riprap) adequate: YES
3. Are structural practices (silt fencing and ditch checks) adeq N/A

Observations (NOTE: location, problem, erosion, sediment build up, damage, etc.):

A. Stabilization/Nonstructural Practices.

1. Surface Grading: In good condition

Actions to correct problem: N/A

2. Vegetative Cover In good condition

Actions to correct problem: N/A

3. Erosion Control Blanket and Mulch(NOTE: erosion control blankets and mulch are temporary controls and are designed to degrade overtime) In good condition

Actions to correct problem: N/A

Riprap Channel Lining: In good condition

Inspection Log - Cont.Date: 3/1/2017

Actions to correct problem: _____ N/A

B. Structural Practices.

1. Silt fencing (NOTE: silt fencing is designed as a temporary control measure and will be removed once the vegetation is established): _____ N/A

Actions to correct problems: _____ N/A

2. Ditch checks (NOTE: ditch checks are designed as a temporary control measure and will be removed once the vegetation is established): _____ In good condition

Actions to correct problems: _____ N/A

C. Discharge locations (NOTE: any discharge of sediments off site): _____ No

Actions to correct problems: _____ N/A

D. Vehicles Tracking Sediment Off-Site NO
Actions to correct problem: _____ N/A

E. Status of Previous Maintenance Activities (NOTE: location and problems):

Actions to correct problems: _____ N/A

F. Other Remarks: _____ N/A

Inspector's Signature: _____ Signature on fileDate: 3/1/2017

Qr
Closed Site Management Group
Landfill Systems Equipment
Inspection Report

Date: 3/1/2017
Inspector: T. Miller

Location: Powell Rd Landfill Huber Heights, OH

Landfill Gas Collection System:

		Yes	No	N/A	Comments
LFG Blower	Operating	X			
	Vibrations Noticed		X		
	Properly Greased	X			
	Excessive Noise		X		
Blower Motor	Properly Greased	X			
	Excessive Noise		X		
LFG Flare	Operating Properly	X			
	Igniter Functioning Properly	X			
	Pilot Fuel Operating Properly	X			
	Propane Supply Adequate	X			
Control Panel	Temperature Display Present	X			
	Display Lights Functioning	X			
	Blower Amps Functioning	X			
	Omnisite Ready / Functioning	X			
Electric Valves	Open During Operation	X			
	Closed During Shut-Down	X			

Air Supply:

Compressor	Maintaining Pressure	Yes			See Below
	Vibrations Noticed		No		None
	Proper Oil Level	Yes			None
	Excessive Noise		No		None

Leachate System:

Pump Stations	Sump Pumps Functioning		No		See below
	Fluids at an Acceptable Level	Yes			None
	Control Panel OK	Yes			None
	Air Supply OK	Yes			None
Storage Tank	Fluids at an Acceptable Level	Yes			None
	Proper Valve operation	Yes			None

LFG Dual Extraction Wells:

LFG Wells	Wellhead in Good Condition	Yes			Pumps have been removed from all wells
	Pump Connections Secure				N/A
	Proper Air Supply				N/A
	Cycle Counter Functioning				N/A
	Observed Pump Cycle				N/A

Comments: See status of KO pumps on site maintenance page.

--	--

Date: 3/1/2017
Inspector: T Miller

Location: Powell Rd Landfill Huber Heights, OH

POST-CLOSURE QUARTERLY INSPECTION FORM
Powell Road Landfill

Date:	6/16/2017	Last Inspection Date:	3/1/2017
Landfill Type:	Closed Municipal/CERCLA	Evaluator:	TOM MILLER
Total Acreage: 76	76	Filled Acreage:	38
Date Closed: 1984	1984	Date Capped:	1985 - 2000

	GOOD	ADEQUATE	ATTENTION	NOT APPLICABLE
SECURITY & ACCESS:				
1. Perimeter Fencing		✓		
2. Signs Posted	✓			
3. Access Road	✓			
4. Undesirable Uses Prevented	✓			
COVER & VEGETATION:				
1. Final Cover Erosion	✓			
2. Top Slope Good Drainage	✓			
3. Side Slope Good Drainage	✓			
4. Evidence of Gas or Leachate	✓			
5. Vegetation Quality & Density	✓			
DRAINAGE:				
1. Appropriate Runoff Controls		✓		
2. Diversion Ditches		✓		
3. Perimeter Ditches		✓		
4. Perimeter Stone		✓		
5. Outlet Structures		✓		
6. Roads	✓			
GW MONITORING WELLS:				
1. Construction Integrity	✓			
2. Security of Wells	✓			
3. Identification of Wells	✓			
LEACHATE & GAS SYSTEMS:				
1. Collection Sumps/Risers	✓			
2. Electrical Components	✓			
3. Leachate Pad Loading	✓			
4. Storage Tank	✓			
5. Security of System		✓		
6. Flare/Blower Operation	✓			
7. Extraction Wells/Pumps		✓		
8. Mechanical Components	✓			
9. Gas Probes	✓			
9. Evidence of Odors/Migration	✓			
10. Autodialer	✓			

COMMENTS: see maintenance page for system updates

Fence, Signs, Gates, and Locks Inspection Sheet

Landfill Identification:	Powell Rd	Landfill Owner/Client:	Robin Jones
Technician:	TOM MILLER	Landfill Location:	Huber Heights
Date of Inspection:	June 16, 2017		

Property Perimeter Fence Inspection Data:	Yes	No	Comments
Are all fence posts straight & free of damage:		✓	See Below
Are all fence panels in good condition (no breaks in the fence):	✓		No Comments
Are all fence panels securely fastened to all fence posts:	✓		No Comments
Does the fence have barb wire runners installed atop the fence:	✓		No Comments
If so, are all barb wire hangers in good condition and in place:	✓		No Comments
And are all barb wire strands in good condition and in place:	✓		No Comments
Are there any signs of trespassing:		✓	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		✓	No Comments
Are all required signs attached to the fence in 150 ft intervals:	✓		No Comments
Are all signs clearly legible and in good condition:	✓		No Comments
Are all fence panels and barb wire runners clear of vegetation:	✓		No Comments

Flare / UST Station Fence Inspection Data:	Yes	No	Comments
Are all fence posts straight & free of damage:	✓		No Comments
Are all fence panels in good condition (no breaks in the fence):	✓		No Comments
Are all fence panels securely fastened to all fence posts:	✓		No Comments
Does the fence have barb wire runners installed atop the fence:	✓		No Comments
If so, are all barb wire hangers in good condition and in place:	✓		No Comments
And are all barb wire strands in good condition and in place:	✓		No Comments
Are there any signs of trespassing:		✓	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		✓	No Comments
Are all required signs attached to the fence in 150 ft intervals:	✓		No Comments
Are all signs clearly legible and in good condition:	✓		No Comments
Are all fence panels and barb wire runners clear of vegetation:	✓		No Comments

Man way and Main Site Entrance Gates Inspection Data:	Yes	No	Comments
Are all gates in good condition:	✓		No Comments
Are all gate hinges in good condition:	✓		No Comments
Do all gates close completely and evenly:	✓		No Comments
Are all gates locked only with approved site locks:	✓		No Comments
Are all security chains heavy duty & in good condition:	✓		No Comments
Are all security chains tightly wrapped twice around the gate & the support pole:	✓		No Comments
Are all required signs attached to the main entrance site gate(s):	✓		No Comments
Are all required signs attached to the man way gate(s):	✓		No Comments

Additional Comments: see maintenance page

SURFACE WATER CONTROL INSPECTION LOG

Date Filed: _____

Ohio EPA Storm Water Construction General Permit No. _____.
Powell Road Landfill, Montgomery County, Ohio

Date of Inspection: 6/16/2017

Name of Inspector & Title: _____ TOM MILLER-LANDFILL SUPERVISOR

Affiliation: _____ WM EMPLOYEE

Qualifications _____

Weather Conditions: 81 dry

Completely fill in the information required below and sign where noted. Forward to Remedial Project Manager for filing.

1. Are measures to prevent erosion and sediment control adequate and properly implemented: YES
(If no, describe observations, repairs needed, design changes needed, or other actions below.)
2. Are non structural practices (surface grading, vegetative cover, mulch, channel riprap) adequate: YES
3. Are structural practices (silt fencing and ditch checks) adeq N/A

Observations (NOTE: location, problem, erosion, sediment build up, damage, etc.):

A. Stabilization/Nonstructural Practices.

1. Surface Grading: In good condition

Actions to correct problem: N/A

2. Vegetative Cover In good condition

Actions to correct problem: N/A

3. Erosion Control Blanket and Mulch(NOTE: erosion control blankets and mulch are temporary controls and are designed to degrade overtime) In good condition

Actions to correct problem: N/A

Riprap Channel Lining: In good condition

Inspection Log - Cont.Date: 6/16/2017

Actions to correct problem: _____ N/A

B. Structural Practices.

1. Silt fencing (NOTE: silt fencing is designed as a temporary control measure and will be removed once the vegetation is established): _____ N/A

Actions to correct problems: _____ N/A

2. Ditch checks (NOTE: ditch checks are designed as a temporary control measure and will be removed once the vegetation is established): _____ In good condition

Actions to correct problems: _____ N/A

- C. Discharge locations (NOTE: any discharge of sediments off site): _____ No

Actions to correct problems: _____ N/A

- D. Vehicles Tracking Sediment Off-Site NO

Actions to correct problem: _____ N/A

- E. Status of Previous Maintenance Activities (NOTE: location and problems):

Actions to correct problems: _____ N/A

F. Other Remarks: _____ N/A

Inspector's Signature: _____ Signature on fileDate: 6/16/2017

Qr
Closed Site Management Group
Landfill Systems Equipment
Inspection Report

Date: 6/16/2017
Inspector: T. Miller

Location: Powell Rd Landfill Huber Heights, OH

Landfill Gas Collection System:

		Yes	No	N/A	Comments
LFG Blower	Operating		X		
	Vibrations Noticed		X		
	Properly Greased	X			
	Excessive Noise		X		
Blower Motor	Properly Greased	X			
	Excessive Noise		X		
LFG Flare	Operating Properly		X		
	Igniter Functioning Properly	X			
	Pilot Fuel Operating Properly	X			
	Propane Supply Adequate	X			
Control Panel	Temperature Display Present	X			
	Display Lights Functioning	X			
	Blower Amps Functioning	X			
	Omnisite Ready / Functioning	X			
Electric Valves	Open During Operation	X			
	Closed During Shut-Down	X			

Air Supply:

Compressor	Maintaining Pressure	Yes			See Below
	Vibrations Noticed		No		None
	Proper Oil Level	Yes			None
	Excessive Noise		No		None

Leachate System:

Pump Stations	Sump Pumps Functioning		No		See below
	Fluids at an Acceptable Level	Yes			None
	Control Panel OK	Yes			None
	Air Supply OK	Yes			None
Storage Tank	Fluids at an Acceptable Level	Yes			None
	Proper Valve operation	Yes			None

LFG Dual Extraction Wells:

LFG Wells	Wellhead in Good Condition	Yes			Pumps have been removed from all wells
	Pump Connections Secure				N/A
	Proper Air Supply				N/A
	Cycle Counter Functioning				N/A
	Observed Pump Cycle				N/A

Comments: Flare is currently down. Working with the WM Gas Manager to review data and define a course of action. The flare is running inconsistently during the 12 hr on cycle.

Date: 6/16/2017
Inspector: T Miller

Location: Powell Rd Landfill Huber Heights, OH

POST-CLOSURE QUARTERLY INSPECTION FORM
Powell Road Landfill

Date:	9/27/2017	Last Inspection Date:	6/16/2017
Landfill Type:	Closed Municipal/CERCLA	Evaluator:	TOM MILLER
Total Acreage: 76	76	Filled Acreage:	38
Date Closed: 1984	1984	Date Capped:	1985 - 2000

	GOOD	ADEQUATE	ATTENTION	NOT APPLICABLE
SECURITY & ACCESS:				
1. Perimeter Fencing		✓		
2. Signs Posted	✓			
3. Access Road	✓			
4. Undesirable Uses Prevented	✓			
COVER & VEGETATION:				
1. Final Cover Erosion	✓			
2. Top Slope Good Drainage	✓			
3. Side Slope Good Drainage	✓			
4. Evidence of Gas or Leachate	✓			
5. Vegetation Quality & Density	✓			
DRAINAGE:				
1. Appropriate Runoff Controls		✓		
2. Diversion Ditches		✓		
3. Perimeter Ditches		✓		
4. Perimeter Stone		✓		
5. Outlet Structures		✓		
6. Roads	✓			
GW MONITORING WELLS:				
1. Construction Integrity	✓			
2. Security of Wells	✓			
3. Identification of Wells	✓			
LEACHATE & GAS SYSTEMS:				
1. Collection Sumps/Risers	✓			
2. Electrical Components	✓			
3. Leachate Pad Loading	✓			
4. Storage Tank	✓			
5. Security of System		✓		
6. Flare/Blower Operation	✓			
7. Extraction Wells/Pumps		✓		
8. Mechanical Components	✓			
9. Gas Probes	✓			
9. Evidence of Odors/Migration	✓			
10. Autodialer	✓			

COMMENTS: see maintenance page for system updates

Fence, Signs, Gates, and Locks Inspection Sheet

Landfill Identification:	Powell Rd	Landfill Owner/Client:	Robin Jones
Technician:	TOM MILLER	Landfill Location:	Huber Heights
Date of Inspection:	September 27, 2017		

Property Perimeter Fence Inspection Data:	Yes	No	Comments
Are all fence posts straight & free of damage:	✓	✗	See Below
Are all fence panels in good condition (no breaks in the fence):	✓	✗	No Comments
Are all fence panels securely fastened to all fence posts:	✓	✗	No Comments
Does the fence have barb wire runners installed atop the fence:	✓	✗	No Comments
If so, are all barb wire hangers in good condition and in place:	✓	✗	No Comments
And are all barb wire strands in good condition and in place:	✓	✗	No Comments
Are there any signs of trespassing:		✓	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		✓	No Comments
Are all required signs attached to the fence in 150 ft intervals:	✓	✗	No Comments
Are all signs clearly legible and in good condition:	✓	✗	No Comments
Are all fence panels and barb wire runners clear of vegetation:	✓	✗	No Comments
Flare / UST Station Fence Inspection Data:	Yes	No	Comments
Are all fence posts straight & free of damage:	✓	✗	No Comments
Are all fence panels in good condition (no breaks in the fence):	✓	✗	No Comments
Are all fence panels securely fastened to all fence posts:	✓	✗	No Comments
Does the fence have barb wire runners installed atop the fence:	✓	✗	No Comments
If so, are all barb wire hangers in good condition and in place:	✓	✗	No Comments
And are all barb wire strands in good condition and in place:	✓	✗	No Comments
Are there any signs of trespassing:		✓	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		✓	No Comments
Are all required signs attached to the fence in 150 ft intervals:	✓	✗	No Comments
Are all signs clearly legible and in good condition:	✓	✗	No Comments
Are all fence panels and barb wire runners clear of vegetation:	✓	✗	No Comments
Man way and Main Site Entrance Gates Inspection Data:	Yes	No	Comments
Are all gates in good condition:	✓	✗	No Comments
Are all gate hinges in good condition:	✓	✗	No Comments
Do all gates close completely and evenly:	✓	✗	No Comments
Are all gates locked only with approved site locks:	✓	✗	No Comments
Are all security chains heavy duty & in good condition:	✓	✗	No Comments
Are all security chains tightly wrapped twice around the gate & the support pole:	✓	✗	No Comments
Are all required signs attached to the main entrance site gate(s):	✓	✗	No Comments
Are all required signs attached to the man way gate(s):	✓	✗	No Comments

Additional Comments:			

SURFACE WATER CONTROL INSPECTION LOG

Date Filed: _____

Ohio EPA Storm Water Construction General Permit No. _____
Powell Road Landfill, Montgomery County, Ohio

Date of Inspection: 9/27/2017

Name of Inspector & Title: TOM MILLER-LANDFILL SUPERVISOR

Affiliation: WM EMPLOYEE

Qualifications _____

Weather Conditions: 82 dry

Completely fill in the information required below and sign where noted. Forward to Remedial Project Manager for filing.

1. Are measures to prevent erosion and sediment control adequate and properly implemented: YES
(If no, describe observations, repairs needed, design changes needed, or other actions below.)
2. Are non structural practices (surface grading, vegetative cover, mulch, channel riprap) adequate: YES
3. Are structural practices (silt fencing and ditch checks) adeq N/A

Observations (NOTE: location, problem, erosion, sediment build up, damage, etc.):

A. Stabilization/Nonstructural Practices.

1. Surface Grading: In good condition

Actions to correct problem: N/A

2. Vegetative Cover In good condition

Actions to correct problem: N/A

3. Erosion Control Blanket and Mulch(NOTE: erosion control blankets and mulch are temporary controls and are designed to degrade overtime) In good condition

Actions to correct problem: N/A

Riprap Channel Lining: In good condition

Inspection Log - Cont.Date: 9/27/2017

Actions to correct problem: _____ N/A _____

B. Structural Practices.

1. Silt fencing (NOTE: silt fencing is designed as a temporary control measure and will be removed once the vegetation is established): _____ N/A _____

Actions to correct problems: _____ N/A _____

2. Ditch checks (NOTE: ditch checks are designed as a temporary control measure and will be removed once the vegetation is established): _____ In good condition _____

Actions to correct problems: _____ N/A _____

- C. Discharge locations (NOTE: any discharge of sediments off site): _____ No _____

Actions to correct problems: _____ N/A _____

- D. Vehicles Tracking Sediment Off-Site NO

Actions to correct problem: _____ N/A _____

- E. Status of Previous Maintenance Activities (NOTE: location and problems):

Actions to correct problems: _____ N/A _____

F. Other Remarks: _____ N/A _____

Inspector's Signature: _____ Signature on fileDate: 9/27/2017

Qr
Closed Site Management Group
Landfill Systems Equipment
Inspection Report

Date: 9/27/2017
Inspector: T. Miller

Location: Powell Rd Landfill Huber Heights, OH

Landfill Gas Collection System:

		Yes	No	N/A	Comments
LFG Blower	Operating		X		
	Vibrations Noticed		X		
	Properly Greased	X			
	Excessive Noise		X		
Blower Motor	Properly Greased	X			
	Excessive Noise		X		
LFG Flare	Operating Properly		X		
	Igniter Functioning Properly	X			
	Pilot Fuel Operating Properly	X			
	Propane Supply Adequate	X			
Control Panel	Temperature Display Present	X			
	Display Lights Functioning	X			
	Blower Amps Functioning	X			
	Omnisite Ready / Functioning	X			
Electric Valves	Open During Operation	X			
	Closed During Shut-Down	X			

Air Supply:

Compressor	Maintaining Pressure	Yes			See Below
	Vibrations Noticed		No		None
	Proper Oil Level	Yes			None
	Excessive Noise		No		None

Leachate System:

Pump Stations	Sump Pumps Functioning		No		See below
	Fluids at an Acceptable Level	Yes			None
	Control Panel OK	Yes			None
	Air Supply OK	Yes			None
Storage Tank	Fluids at an Acceptable Level	Yes			None
	Proper Valve operation	Yes			None

LFG Dual Extraction Wells:

LFG Wells	Wellhead in Good Condition	Yes			Pumps have been removed from all wells
	Pump Connections Secure				N/A
	Proper Air Supply				N/A
	Cycle Counter Functioning				N/A
	Observed Pump Cycle				N/A

Comments: Flare is currently down. Working with the WM Gas Manager to review data and define a course of action. The flare is running inconsistently during the 12 hr on cycle.

Date: 9/27/2017
Inspector: T Miller

Location: Powell Rd Landfill Huber Heights, OH

POST-CLOSURE QUARTERLY INSPECTION FORM
Powell Road Landfill

Date:	11/14/2017	Last Inspection Date:	9/27/2017
Landfill Type:	Closed Municipal/CERCLA	Evaluator:	TOM MILLER
Total Acreage: 76	76	Filled Acreage:	38
Date Closed: 1984	1984	Date Capped:	1985 - 2000

	GOOD	ADEQUATE	ATTENTION	NOT APPLICABLE
SECURITY & ACCESS:				
1. Perimeter Fencing		✓		
2. Signs Posted	✓			
3. Access Road	✓			
4. Undesirable Uses Prevented	✓			
COVER & VEGETATION:				
1. Final Cover Erosion	✓			
2. Top Slope Good Drainage	✓			
3. Side Slope Good Drainage	✓			
4. Evidence of Gas or Leachate	✓			
5. Vegetation Quality & Density	✓			
DRAINAGE:				
1. Appropriate Runoff Controls		✓		
2. Diversion Ditches		✓		
3. Perimeter Ditches		✓		
4. Perimeter Stone		✓		
5. Outlet Structures		✓		
6. Roads	✓			
GW MONITORING WELLS:				
1. Construction Integrity	✓			
2. Security of Wells	✓			
3. Identification of Wells	✓			
LEACHATE & GAS SYSTEMS:				
1. Collection Sumps/Risers	✓			
2. Electrical Components	✓			
3. Leachate Pad Loading	✓			
4. Storage Tank	✓			
5. Security of System		✓		
6. Flare/Blower Operation	✓			
7. Extraction Wells/Pumps		✓		
8. Mechanical Components	✓			
9. Gas Probes	✓			
9. Evidence of Odors/Migration	✓			
10. Autodialer	✓			

COMMENTS: see maintenance page for system updates

Fence, Signs, Gates, and Locks Inspection Sheet

Landfill Identification:	Powell Rd	Landfill Owner/Client:	Robin Jones
Technician:	TOM MILLER	Landfill Location:	Huber Heights
Date of Inspection:	November 14, 2017		

Property Perimeter Fence Inspection Data:	Yes	No	Comments
Are all fence posts straight & free of damage:		✓	See Below
Are all fence panels in good condition (no breaks in the fence):	✓		No Comments
Are all fence panels securely fastened to all fence posts:	✓		No Comments
Does the fence have barb wire runners installed atop the fence:	✓		No Comments
If so, are all barb wire hangers in good condition and in place:	✓		No Comments
And are all barb wire strands in good condition and in place:	✓		No Comments
Are there any signs of trespassing:		✓	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		✓	No Comments
Are all required signs attached to the fence in 150 ft intervals:	✓		No Comments
Are all signs clearly legible and in good condition:	✓		No Comments
Are all fence panels and barb wire runners clear of vegetation:	✓		No Comments
Flare / UST Station Fence Inspection Data:	Yes	No	Comments
Are all fence posts straight & free of damage:	✓		No Comments
Are all fence panels in good condition (no breaks in the fence):	✓		No Comments
Are all fence panels securely fastened to all fence posts:	✓		No Comments
Does the fence have barb wire runners installed atop the fence:	✓		No Comments
If so, are all barb wire hangers in good condition and in place:	✓		No Comments
And are all barb wire strands in good condition and in place:	✓		No Comments
Are there any signs of trespassing:		✓	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		✓	No Comments
Are all required signs attached to the fence in 150 ft intervals:	✓		No Comments
Are all signs clearly legible and in good condition:	✓		No Comments
Are all fence panels and barb wire runners clear of vegetation:	✓		No Comments
Man way and Main Site Entrance Gates Inspection Data:	Yes	No	Comments
Are all gates in good condition:	✓		No Comments
Are all gate hinges in good condition:	✓		No Comments
Do all gates close completely and evenly:	✓		No Comments
Are all gates locked only with approved site locks:	✓		No Comments
Are all security chains heavy duty & in good condition:	✓		No Comments
Are all security chains tightly wrapped twice around the gate & the support pole:	✓		No Comments
Are all required signs attached to the main entrance site gate(s):	✓		No Comments
Are all required signs attached to the man way gate(s):	✓		No Comments

Additional Comments:

SURFACE WATER CONTROL INSPECTION LOG

Date Filed: _____

Ohio EPA Storm Water Construction General Permit No. _____.
Powell Road Landfill, Montgomery County, Ohio

Date of Inspection: 11/14/2017

Name of Inspector & Title: _____ TOM MILLER-LANDFILL SUPERVISOR

Affiliation: _____ WM EMPLOYEE

Qualifications _____

Weather Conditions: _____ 43 dry

Completely fill in the information required below and sign where noted. Forward to Remedial Project Manager for filing.

1. Are measures to prevent erosion and sediment control adequate and properly implemented: YES
(If no, describe observations, repairs needed, design changes needed, or other actions below.)
2. Are non structural practices (surface grading, vegetative cover, mulch, channel riprap) adequate: YES
3. Are structural practices (silt fencing and ditch checks) adeq N/A

Observations (NOTE: location, problem, erosion, sediment build up, damage, etc.):

A. Stabilization/Nonstructural Practices.

1. Surface Grading: _____ In good condition

Actions to correct problem: _____ N/A

2. Vegetative Cover: _____ In good condition

Actions to correct problem: _____ N/A

3. Erosion Control Blanket and Mulch(NOTE: erosion control blankets and mulch are temporary controls and are designed to degrade overtime) _____ In good condition

Actions to correct problem: _____ N/A

Riprap Channel Lining: _____ In good condition

Inspection Log - Cont.

Date: 11/14/2017

Actions to correct problem: _____ N/A

B. Structural Practices.

1. Silt fencing (NOTE: silt fencing is designed as a temporary control measure and will be removed once the vegetation is established): _____ N/A

Actions to correct problems: _____ N/A

2. Ditch checks (NOTE: ditch checks are designed as a temporary control measure and will be removed once the vegetation is established): _____ In good condition

Actions to correct problems: _____ N/A

C. Discharge locations (NOTE: any discharge of sediments off site): _____ No

Actions to correct problems: _____ N/A

D. Vehicles Tracking Sediment Off-Site NO

Actions to correct problem: _____ N/A

E. Status of Previous Maintenance Activities (NOTE: location and problems):

Actions to correct problems: _____ N/A

F. Other Remarks: _____ N/A

Inspector's Signature: _____ Signature on file

Date: 11/14/2017

Qr
Closed Site Management Group
Landfill Systems Equipment
Inspection Report

Date: 11/14/2017
Inspector: T. Miller

Location: Powell Rd Landfill Huber Heights, OH

Landfill Gas Collection System:		Yes	No	N/A	Comments
LFG Blower	Operating	x			
	Vibrations Noticed	x			
	Properly Greased	x			
	Excessive Noise		x		
Blower Motor	Properly Greased	x			
	Excessive Noise		x		
LFG Flare	Operating Properly		x		
	Igniter Functioning Properly		x		
	Pilot Fuel Operating Properly	x			
	Propane Supply Adequate	x			
Control Panel	Temperature Display Present	x			
	Display Lights Functioning	x			
	Blower Amps Functioning	x			
	Omnisite Ready / Functioning	x			
Electric Valves	Open During Operation	x			
	Closed During Shut-Down	x			

Air Supply:

Compressor	Maintaining Pressure	Yes			See Below
	Vibrations Noticed		No		None
	Proper Oil Level	Yes			None
	Excessive Noise		No		None

Leachate System:

Pump Stations	Sump Pumps Functioning		No		See below
	Fluids at an Acceptable Level	Yes			None
	Control Panel OK	Yes			None
	Air Supply OK	Yes			None
Storage Tank	Fluids at an Acceptable Level	Yes			None
	Proper Valve operation	Yes			None

LFG Dual Extraction Wells:

LFG Wells	Wellhead in Good Condition	Yes			Pumps have been removed from all wells
	Pump Connections Secure				N/A
	Proper Air Supply				N/A
	Cycle Counter Functioning				N/A
	Observed Pump Cycle				N/A

Comments: Flare is currently operational but will not stay running. Working with the WM Gas Manger to review data and define a course of action. The flare is running inconsistently during the 12 hr cycle.

--

Date: 11/14/2017
Inspector: T Miller

Location: Powell Rd Landfill Huber Heights, OH

APPENDIX C.

ENVIRONMENTAL COVENANT VERIFICATION

ENVIRONMENTAL COVENANT COMPLIANCE REPORTING
POWELL ROAD LANDFILL, MONTGOMERY COUNTY, OHIO
U.S. EPA DOCKET NO. V-W-98-C-466 & V-W-98-C-465

This document has been prepared to fulfill the annual reporting requirement of the Environmental Covenant (EC) (Document SP-I-10-059281, Montgomery County, Ohio) for the Powell Road Landfill in accordance with Section 10 of the EC.

In 2017, Waste Management of Ohio, Inc. remained the owner of the Powell Road Landfill. The EC activity and use limitations remain in place and are in compliance with the EC.



Date: 3/26/18

Robin Jones

District Manager, WMO

APPENDIX D.

AUTO-DIALER CALL OUT SUMMARIES, DOWNTIME REPORTS, AND AUTO-DIALER PROTOCOL

Powell Road Omni Alarm System
January 1, 2017 to March 31, 2017

- Alarm History -

Station	Device	Alarm Start	Alarm End	Alarm Duration
Input: Flare Failure				
Powell Rd.	28375	1/1/2017 12:01:26 AM	1/13/2017 9:55:51 AM	297:54:25
Powell Rd.	28375	1/13/2017 8:19:31 PM	1/14/2017 8:09:32 AM	11:50:01
Powell Rd.	28375	1/14/2017 8:20:51 PM	1/15/2017 8:09:51 AM	11:49:00
Powell Rd.	28375	1/15/2017 8:20:51 PM	1/16/2017 8:09:41 AM	11:48:50
Powell Rd.	28375	1/16/2017 8:21:32 PM	1/17/2017 8:09:42 AM	11:48:10
Powell Rd.	28375	1/17/2017 8:20:01 PM	1/18/2017 8:10:42 AM	11:50:41
Powell Rd.	28375	1/18/2017 8:21:02 PM	1/19/2017 8:09:31 AM	11:48:29
Powell Rd.	28375	1/19/2017 8:20:32 PM	1/20/2017 8:10:22 AM	11:49:50
Powell Rd.	28375	1/20/2017 8:20:53 PM	1/22/2017 12:17:22 PM	39:56:29
Powell Rd.	28375	1/22/2017 12:25:11 PM	1/23/2017 8:26:32 AM	20:01:21
Powell Rd.	28375	1/23/2017 8:39:53 AM	1/24/2017 9:06:41 AM	24:26:48
Powell Rd.	28375	1/24/2017 9:09:31 AM	2/1/2017 1:01:12 PM	195:51:41
Powell Rd.	28375	2/1/2017 1:03:12 PM	3/1/2017 11:35:53 AM	670:32:41
Powell Rd.	28375	3/1/2017 12:04:46 AM	3/1/2017 11:35:53 AM	11:31:07
Powell Rd.	28375	3/1/2017 8:18:32 PM	3/2/2017 8:10:52 AM	11:52:20
Powell Rd.	28375	3/2/2017 8:20:12 PM	3/3/2017 8:10:51 AM	11:50:39
Powell Rd.	28375	3/3/2017 9:22:21 AM	3/8/2017 5:57:42 PM	128:35:21
Powell Rd.	28375	3/8/2017 8:22:01 PM	3/9/2017 8:11:21 AM	11:49:20
Powell Rd.	28375	3/9/2017 8:22:02 PM	3/10/2017 8:10:51 AM	11:48:49
Powell Rd.	28375	3/10/2017 8:20:32 PM	3/11/2017 8:10:41 AM	11:50:09
Powell Rd.	28375	3/11/2017 8:15:52 AM	3/11/2017 8:25:41 AM	00:09:49
Powell Rd.	28375	3/11/2017 8:21:41 PM	3/12/2017 9:10:51 AM	12:49:10
Powell Rd.	28375	3/12/2017 9:21:41 PM	3/13/2017 9:11:22 AM	11:49:41
Powell Rd.	28375	3/13/2017 9:21:32 PM	3/14/2017 9:10:51 AM	11:49:19
Powell Rd.	28375	3/14/2017 9:21:11 PM	3/15/2017 9:11:02 AM	11:49:51
Powell Rd.	28375	3/15/2017 9:15:31 AM	3/15/2017 9:18:22 AM	00:02:51
Powell Rd.	28375	3/15/2017 9:23:21 AM	3/15/2017 9:26:12 AM	00:02:51
Powell Rd.	28375	3/15/2017 9:21:12 PM	3/16/2017 9:11:02 AM	11:49:50
Powell Rd.	28375	3/16/2017 9:15:22 AM	3/16/2017 9:26:04 AM	00:10:42
Powell Rd.	28375	3/16/2017 9:21:42 PM	3/17/2017 9:10:51 AM	11:49:09
Powell Rd.	28375	3/17/2017 9:22:01 PM	3/18/2017 9:10:52 AM	11:48:51
Powell Rd.	28375	3/18/2017 9:20:51 PM	3/19/2017 9:10:51 AM	11:50:00
Powell Rd.	28375	3/19/2017 9:17:51 AM	3/19/2017 9:41:01 AM	00:23:10
Powell Rd.	28375	3/19/2017 9:45:51 AM	3/19/2017 9:50:11 AM	00:04:20
Powell Rd.	28375	3/19/2017 10:01:41 AM	3/19/2017 10:07:02 AM	00:05:21
Powell Rd.	28375	3/19/2017 10:21:41 AM	3/19/2017 10:27:21 AM	00:05:40
Powell Rd.	28375	3/19/2017 9:21:11 PM	3/20/2017 9:10:52 AM	11:49:41
Powell Rd.	28375	3/20/2017 9:20:52 PM	3/21/2017 9:11:01 AM	11:50:09
Powell Rd.	28375	3/21/2017 9:24:51 AM	3/21/2017 9:28:11 AM	00:03:20
Powell Rd.	28375	3/21/2017 11:54:02 AM	3/22/2017 9:16:04 AM	21:22:02
Powell Rd.	28375	3/22/2017 9:21:32 AM	3/22/2017 9:24:02 AM	00:02:30
Powell Rd.	28375	3/22/2017 9:36:42 AM	3/22/2017 9:39:11 AM	00:02:29
Powell Rd.	28375	3/22/2017 9:45:52 AM	3/22/2017 9:48:14 AM	00:02:22
Powell Rd.	28375	3/22/2017 9:50:21 AM	3/24/2017 9:11:11 AM	47:20:50
Powell Rd.	28375	3/24/2017 9:21:03 PM	3/25/2017 9:11:02 AM	11:49:59
Powell Rd.	28375	3/25/2017 9:22:31 PM	3/26/2017 9:11:11 AM	11:48:40

Powell Rd.	28375	3/26/2017 9:22:25 PM	3/27/2017 9:11:01 AM	11:48:36
Powell Rd.	28375	3/27/2017 9:16:42 AM	3/27/2017 9:18:52 AM	00:02:10
Powell Rd.	28375	3/27/2017 9:24:32 AM	3/27/2017 9:27:02 AM	00:02:30
Powell Rd.	28375	3/27/2017 9:32:25 AM	3/27/2017 9:34:42 AM	00:02:17
Powell Rd.	28375	3/27/2017 9:42:31 AM	3/27/2017 9:44:53 AM	00:02:22
Powell Rd.	28375	3/27/2017 9:22:02 PM	3/28/2017 9:10:51 AM	11:48:49
Powell Rd.	28375	3/28/2017 9:15:42 AM	3/28/2017 9:17:41 AM	00:01:59
Powell Rd.	28375	3/28/2017 9:08:21 PM	3/29/2017 9:59:21 AM	12:51:00
Powell Rd.	28375	3/29/2017 9:21:42 PM	3/30/2017 9:11:22 AM	11:49:40
Powell Rd.	28375	3/30/2017 9:22:11 PM	3/31/2017 9:11:02 AM	11:48:51
Powell Rd.	28375	3/31/2017 5:39:31 PM	3/31/2017 5:43:12 PM	00:03:41
Powell Rd.	28375	3/31/2017 5:46:12 PM	3/31/2017 5:47:42 PM	00:01:30
Powell Rd.	28375	3/31/2017 8:03:44 PM	3/31/2017 8:12:53 PM	00:09:09
Powell Rd.	28375	3/31/2017 9:02:02 PM	4/1/2017 10:32:51 AM	13:30:49
Powell Rd.	28375	4/1/2017 10:40:51 AM		13:18:09
			HH:MM:SS	2030:50:45

CYCLE TIMER SHUTDOWN 12 HRS DAILY	
*NOT ALL ALARMS SHUTDOWN THE SYSTEMS	HH:MM:SS
FLARE DOWNTIME MECHANICAL	1474:40:48
JAN DAILY SHUTDOWN	84
FEB DAILY SHUTDOWN	0
MAR DAILY SHUTDOWN	276

Powell Road Omni Alarm System

April 1, 2017 to June 30, 2017

- Alarm History -

Station	Device	Alarm Start	Alarm End	Alarm Duration
Input: Flare Failure				
Powell Rd.	28375	4/1/2017 12:07:56 AM	4/1/2017 10:32:51 AM	10:24:55
Powell Rd.	28375	4/1/2017 10:40:51 AM	4/2/2017 9:11:11 AM	22:30:20
Powell Rd.	28375	4/2/2017 9:14:02 AM	4/2/2017 9:15:31 AM	00:01:29
Powell Rd.	28375	4/2/2017 9:18:11 AM	4/3/2017 9:11:21 AM	23:53:10
Powell Rd.	28375	4/3/2017 9:22:01 PM	4/4/2017 9:10:52 AM	11:48:51
Powell Rd.	28375	4/4/2017 3:08:42 PM	4/4/2017 3:12:22 PM	00:03:40
Powell Rd.	28375	4/4/2017 3:16:02 PM	4/4/2017 3:16:42 PM	00:00:40
Powell Rd.	28375	4/4/2017 3:21:41 PM	4/4/2017 3:24:52 PM	00:03:11
Powell Rd.	28375	4/4/2017 3:29:42 PM	4/4/2017 3:37:31 PM	00:07:49
Powell Rd.	28375	4/4/2017 5:29:11 PM	4/4/2017 5:37:51 PM	00:08:40
Powell Rd.	28375	4/4/2017 6:11:42 PM	4/4/2017 6:21:51 PM	00:10:09
Powell Rd.	28375	4/4/2017 6:26:51 PM	4/4/2017 6:35:41 PM	00:08:50
Powell Rd.	28375	4/4/2017 6:40:42 PM	4/4/2017 6:43:52 PM	00:03:10
Powell Rd.	28375	4/4/2017 6:47:22 PM	4/4/2017 6:49:01 PM	00:01:39
Powell Rd.	28375	4/4/2017 7:01:41 PM	4/13/2017 10:16:41 AM	207:15:00
Powell Rd.	28375	4/13/2017 9:21:41 PM	4/14/2017 9:11:21 AM	11:49:40
Powell Rd.	28375	4/14/2017 9:21:41 PM	4/15/2017 9:11:22 AM	11:49:41
Powell Rd.	28375	4/15/2017 9:20:51 PM	4/16/2017 9:11:31 AM	11:50:40
Powell Rd.	28375	4/16/2017 9:20:01 PM	4/17/2017 9:11:21 AM	11:51:20
Powell Rd.	28375	4/17/2017 9:19:03 AM	4/17/2017 9:20:51 AM	00:01:48
Powell Rd.	28375	4/17/2017 9:28:52 AM	4/17/2017 9:30:52 AM	00:02:00
Powell Rd.	28375	4/17/2017 9:37:31 AM	4/17/2017 9:39:22 AM	00:01:51
Powell Rd.	28375	4/17/2017 9:45:41 AM	4/17/2017 9:47:31 AM	00:01:50
Powell Rd.	28375	4/17/2017 9:53:11 AM	4/17/2017 9:54:53 AM	00:01:42
Powell Rd.	28375	4/17/2017 10:00:35 AM	4/17/2017 10:02:22 AM	00:01:47
Powell Rd.	28375	4/17/2017 10:08:11 AM	4/17/2017 10:09:52 AM	00:01:41
Powell Rd.	28375	4/17/2017 10:15:31 AM	4/17/2017 10:17:11 AM	00:01:40
Powell Rd.	28375	4/17/2017 10:23:01 AM	4/17/2017 10:24:41 AM	00:01:40
Powell Rd.	28375	4/17/2017 10:30:22 AM	4/17/2017 10:32:03 AM	00:01:41
Powell Rd.	28375	4/17/2017 10:34:41 AM	4/25/2017 9:11:51 AM	190:37:10
Powell Rd.	28375	4/25/2017 9:22:31 PM	4/26/2017 9:11:31 AM	11:49:00
Powell Rd.	28375	4/26/2017 9:22:53 PM	4/27/2017 9:11:31 AM	11:48:38
Powell Rd.	28375	4/27/2017 9:20:21 PM	4/28/2017 9:11:31 AM	11:51:10
Powell Rd.	28375	4/28/2017 9:16:51 AM	4/28/2017 9:18:51 AM	00:02:00
Powell Rd.	28375	4/28/2017 9:30:21 AM	4/28/2017 9:32:01 AM	00:01:40
Powell Rd.	28375	4/28/2017 9:37:01 AM	4/28/2017 9:38:51 AM	00:01:50
Powell Rd.	28375	4/28/2017 9:43:51 AM	4/28/2017 9:45:31 AM	00:01:40
Powell Rd.	28375	4/28/2017 9:50:51 AM	4/28/2017 9:52:41 AM	00:01:50
Powell Rd.	28375	4/28/2017 9:58:02 AM	4/28/2017 10:00:16 AM	00:02:14
Powell Rd.	28375	4/28/2017 10:12:03 AM	4/28/2017 10:13:42 AM	00:01:39
Powell Rd.	28375	4/28/2017 9:20:32 PM	4/29/2017 9:11:31 AM	11:50:59
Powell Rd.	28375	4/29/2017 9:26:02 AM	4/29/2017 9:27:42 AM	00:01:40
Powell Rd.	28375	4/29/2017 9:32:41 AM	4/29/2017 9:34:31 AM	00:01:50
Powell Rd.	28375	4/29/2017 9:39:11 AM	4/29/2017 9:41:03 AM	00:01:52
Powell Rd.	28375	4/29/2017 9:46:21 AM	4/29/2017 9:48:03 AM	00:01:42

Powell Rd.	28375	4/29/2017 9:20:11 PM	4/30/2017 9:11:22 AM	11:51:11
Powell Rd.	28375	4/30/2017 9:19:02 PM	5/1/2017 9:11:21 AM	11:52:19
Powell Rd.	28375	5/1/2017 9:18:32 PM	5/2/2017 9:11:31 AM	11:52:59
Powell Rd.	28375	5/2/2017 9:40:11 AM	5/2/2017 9:42:11 AM	00:02:00
Powell Rd.	28375	5/2/2017 9:18:32 PM	5/3/2017 9:11:41 AM	11:53:09
Powell Rd.	28375	5/3/2017 9:17:21 AM	5/3/2017 9:22:31 AM	00:05:10
Powell Rd.	28375	5/3/2017 9:36:21 AM	5/3/2017 9:38:31 AM	00:02:10
Powell Rd.	28375	5/3/2017 9:47:11 AM	5/3/2017 9:49:11 AM	00:02:00
Powell Rd.	28375	5/3/2017 9:52:51 AM	5/10/2017 9:59:52 AM	168:07:01
Powell Rd.	28375	5/10/2017 9:21:51 PM	5/12/2017 8:31:51 AM	35:10:00
Powell Rd.	28375	5/12/2017 8:22:31 PM	5/13/2017 8:12:42 AM	11:50:11
Powell Rd.	28375	5/13/2017 8:23:21 PM	5/14/2017 8:12:41 AM	11:49:20
Powell Rd.	28375	5/14/2017 8:33:52 AM	5/14/2017 8:35:31 AM	00:01:39
Powell Rd.	28375	5/14/2017 8:51:23 AM	5/14/2017 8:53:03 AM	00:01:40
Powell Rd.	28375	5/14/2017 8:22:59 PM	5/15/2017 8:16:47 AM	11:53:48
Powell Rd.	28375	5/15/2017 8:20:21 AM	5/15/2017 8:22:01 AM	00:01:40
Powell Rd.	28375	5/15/2017 8:28:00 AM	5/15/2017 8:33:08 AM	00:05:08
Powell Rd.	28375	5/15/2017 8:37:02 AM	5/15/2017 8:37:05 AM	00:00:03
Powell Rd.	28375	5/15/2017 8:49:14 AM	5/15/2017 8:49:35 AM	00:00:21
Powell Rd.	28375	5/15/2017 8:22:42 PM	5/16/2017 8:12:42 AM	11:50:00
Powell Rd.	28375	5/16/2017 8:25:12 AM	5/16/2017 8:26:52 AM	00:01:40
Powell Rd.	28375	5/16/2017 8:32:52 AM	5/16/2017 8:34:43 AM	00:01:51
Powell Rd.	28375	5/16/2017 8:41:31 AM	5/16/2017 8:43:21 AM	00:01:50
Powell Rd.	28375	5/16/2017 8:52:41 AM	5/16/2017 8:54:31 AM	00:01:50
Powell Rd.	28375	5/16/2017 9:00:45 AM	5/16/2017 9:02:03 AM	00:01:18
Powell Rd.	28375	5/16/2017 8:22:11 PM	5/17/2017 8:12:41 AM	11:50:30
Powell Rd.	28375	5/17/2017 8:21:21 AM	5/17/2017 8:23:11 AM	00:01:50
Powell Rd.	28375	5/17/2017 8:31:12 AM	5/17/2017 8:33:02 AM	00:01:50
Powell Rd.	28375	5/17/2017 8:43:11 AM	5/17/2017 8:45:03 AM	00:01:52
Powell Rd.	28375	5/17/2017 8:53:41 AM	5/17/2017 8:55:31 AM	00:01:50
Powell Rd.	28375	5/17/2017 9:01:21 AM	5/17/2017 9:02:50 AM	00:01:29
Powell Rd.	28375	5/17/2017 9:08:02 AM	5/17/2017 9:09:51 AM	00:01:49
Powell Rd.	28375	5/17/2017 9:15:02 AM	5/17/2017 9:16:42 AM	00:01:40
Powell Rd.	28375	5/17/2017 9:36:11 AM	5/17/2017 9:37:51 AM	00:01:40
Powell Rd.	28375	5/17/2017 8:20:41 PM	5/18/2017 8:12:41 AM	11:52:00
Powell Rd.	28375	5/18/2017 8:20:51 AM	5/18/2017 8:23:01 AM	00:02:10
Powell Rd.	28375	5/18/2017 8:29:51 AM	5/18/2017 8:32:03 AM	00:02:12
Powell Rd.	28375	5/18/2017 8:38:41 AM	5/18/2017 8:40:51 AM	00:02:10
Powell Rd.	28375	5/18/2017 8:47:21 AM	5/18/2017 8:49:31 AM	00:02:10
Powell Rd.	28375	5/18/2017 8:55:51 AM	5/18/2017 8:57:51 AM	00:02:00
Powell Rd.	28375	5/18/2017 9:04:23 AM	5/18/2017 9:06:11 AM	00:01:48
Powell Rd.	28375	5/18/2017 8:20:41 PM	5/19/2017 8:12:41 AM	11:52:00
Powell Rd.	28375	5/19/2017 8:18:22 AM	5/19/2017 8:22:11 AM	00:03:49
Powell Rd.	28375	5/19/2017 8:37:31 AM	5/19/2017 8:39:51 AM	00:02:20
Powell Rd.	28375	5/19/2017 8:47:11 AM	5/19/2017 8:49:31 AM	00:02:20
Powell Rd.	28375	5/19/2017 8:56:31 AM	5/19/2017 8:58:41 AM	00:02:10
Powell Rd.	28375	5/19/2017 9:05:31 AM	5/19/2017 9:07:51 AM	00:02:20
Powell Rd.	28375	5/19/2017 9:15:22 AM	5/19/2017 9:17:12 AM	00:01:50
Powell Rd.	28375	5/19/2017 9:24:10 AM	5/19/2017 9:26:01 AM	00:01:51
Powell Rd.	28375	5/19/2017 9:33:41 AM	5/19/2017 9:35:41 AM	00:02:00
Powell Rd.	28375	5/19/2017 9:43:41 AM	5/19/2017 9:45:32 AM	00:01:51
Powell Rd.	28375	5/19/2017 9:55:41 AM	5/19/2017 9:58:02 AM	00:02:21
Powell Rd.	28375	5/19/2017 10:07:11 AM	5/19/2017 10:09:05 AM	00:01:54

Powell Rd.	28375	5/19/2017 10:18:41 AM	5/19/2017 10:20:23 AM	00:01:42
Powell Rd.	28375	5/19/2017 10:35:22 AM	5/19/2017 10:38:03 AM	00:02:41
Powell Rd.	28375	5/19/2017 10:50:05 AM	5/19/2017 10:53:04 AM	00:02:59
Powell Rd.	28375	5/19/2017 11:39:11 AM	5/19/2017 11:39:25 AM	00:00:14
Powell Rd.	28375	5/19/2017 11:40:57 AM	5/19/2017 11:41:09 AM	00:00:12
Powell Rd.	28375	5/19/2017 11:43:00 AM	5/19/2017 11:43:11 AM	00:00:11
Powell Rd.	28375	5/19/2017 11:51:02 AM	5/19/2017 11:53:22 AM	00:02:20
Powell Rd.	28375	5/19/2017 12:03:43 PM	5/19/2017 1:51:02 PM	01:47:19
Powell Rd.	28375	5/19/2017 1:57:02 PM	5/19/2017 1:58:51 PM	00:01:49
Powell Rd.	28375	5/19/2017 3:28:11 PM	5/19/2017 3:29:51 PM	00:01:40
Powell Rd.	28375	5/19/2017 3:38:21 PM	5/21/2017 3:26:52 PM	47:48:31
Powell Rd.	28375	5/21/2017 8:21:22 PM	5/22/2017 8:12:31 AM	11:51:09
Powell Rd.	28375	5/22/2017 8:24:11 AM	5/22/2017 8:26:11 AM	00:02:00
Powell Rd.	28375	5/22/2017 8:32:11 AM	5/22/2017 8:34:21 AM	00:02:10
Powell Rd.	28375	5/22/2017 8:43:01 AM	5/22/2017 8:44:52 AM	00:01:51
Powell Rd.	28375	5/22/2017 8:50:41 AM	5/22/2017 8:52:41 AM	00:02:00
Powell Rd.	28375	5/22/2017 8:58:11 AM	5/22/2017 9:00:51 AM	00:02:40
Powell Rd.	28375	5/22/2017 9:04:52 AM	5/22/2017 12:45:41 PM	03:40:49
Powell Rd.	28375	5/22/2017 8:21:21 PM	5/23/2017 8:15:01 AM	11:53:40
Powell Rd.	28375	5/23/2017 8:22:21 PM	5/24/2017 8:12:41 AM	11:50:20
Powell Rd.	28375	5/24/2017 8:21:41 PM	5/25/2017 8:12:42 AM	11:51:01
Powell Rd.	28375	5/25/2017 8:39:22 AM	5/25/2017 8:41:12 AM	00:01:50
Powell Rd.	28375	5/25/2017 8:47:52 AM	5/25/2017 8:49:52 AM	00:02:00
Powell Rd.	28375	5/25/2017 8:56:02 AM	5/25/2017 8:57:51 AM	00:01:49
Powell Rd.	28375	5/25/2017 9:03:21 AM	5/25/2017 9:05:12 AM	00:01:51
Powell Rd.	28375	5/25/2017 9:10:51 AM	5/25/2017 9:12:41 AM	00:01:50
Powell Rd.	28375	5/25/2017 9:18:21 AM	5/25/2017 9:20:11 AM	00:01:50
Powell Rd.	28375	5/25/2017 9:25:41 AM	5/25/2017 9:27:31 AM	00:01:50
Powell Rd.	28375	5/25/2017 9:33:12 AM	5/25/2017 9:34:52 AM	00:01:40
Powell Rd.	28375	5/25/2017 9:40:31 AM	5/25/2017 9:42:31 AM	00:02:00
Powell Rd.	28375	5/25/2017 9:47:42 AM	6/9/2017 8:42:52 AM	358:55:10
Powell Rd.	28375	6/9/2017 8:22:42 PM	6/10/2017 8:12:31 AM	11:49:49
Powell Rd.	28375	6/10/2017 8:21:11 PM	6/11/2017 8:12:41 AM	11:51:30
Powell Rd.	28375	6/11/2017 8:22:21 PM	6/12/2017 8:12:31 AM	11:50:10
Powell Rd.	28375	6/12/2017 8:22:01 PM	6/13/2017 8:12:41 AM	11:50:40
Powell Rd.	28375	6/13/2017 8:32:01 AM	6/13/2017 8:33:41 AM	00:01:40
Powell Rd.	28375	6/13/2017 8:39:51 AM	6/13/2017 8:41:42 AM	00:01:51
Powell Rd.	28375	6/13/2017 8:47:12 AM	6/13/2017 8:48:52 AM	00:01:40
Powell Rd.	28375	6/13/2017 8:54:33 AM	6/13/2017 8:56:12 AM	00:01:39
Powell Rd.	28375	6/13/2017 9:01:41 AM	6/13/2017 9:03:21 AM	00:01:40
Powell Rd.	28375	6/13/2017 9:06:32 AM	6/16/2017 8:30:02 AM	71:23:30
Powell Rd.	28375	6/16/2017 8:23:31 PM	6/17/2017 8:12:41 AM	11:49:10
Powell Rd.	28375	6/17/2017 8:22:01 PM	6/18/2017 8:12:52 AM	11:50:51
Powell Rd.	28375	6/18/2017 8:21:11 PM	6/19/2017 8:12:41 AM	11:51:30
Powell Rd.	28375	6/19/2017 8:23:11 AM	6/19/2017 8:25:01 AM	00:01:50
Powell Rd.	28375	6/19/2017 8:33:42 AM	6/19/2017 8:35:32 AM	00:01:50
Powell Rd.	28375	6/19/2017 8:42:31 AM	6/19/2017 8:44:21 AM	00:01:50
Powell Rd.	28375	6/19/2017 8:50:51 AM	6/19/2017 8:52:41 AM	00:01:50
Powell Rd.	28375	6/19/2017 8:56:21 AM		303:02:39
				HH:MM:SS
				1851:17:55
Input: Primary Power				
Powell Rd.	28375	5/11/2017 1:12:25 AM	5/11/2017 2:08:41 AM	00:56:16
Powell Rd.	28375	5/28/2017 5:49:02 AM	5/28/2017 3:23:41 PM	09:34:39

HH:MM:SS

10:30:55

CYCLE TIMER SHUTDOWN 12 HRS DAILY	
*NOT ALL ALARMS SHUTDOWN THE SYSTEMS	HH:MM:SS
FLARE DOWNTIME MECHANICAL	1419:23:16
APR DAILY SHUTDOWN	120
MAY DAILY SHUTDOWN	144
JUNE DAILY SHUTDOWN	144

Powell Road Omni Alarm System

July 1, 2017 to Sept 30, 2017

- Alarm History -

Station	Device	Alarm Start	Alarm End	Alarm Duration
Input: Flare Failure				
Powell Rd.	28375	7/1/2017 12:05:10 AM	7/7/2017 10:42:12 AM	154:37:02
Powell Rd.	28375	7/7/2017 1:00:01 PM	7/7/2017 1:02:01 PM	00:02:00
Powell Rd.	28375	7/7/2017 4:07:02 PM	7/7/2017 4:08:42 PM	00:01:40
Powell Rd.	28375	7/7/2017 4:21:52 PM	7/17/2017 8:46:41 AM	232:24:49
Powell Rd.	28375	7/17/2017 7:06:32 PM	7/17/2017 7:10:52 PM	00:04:20
Powell Rd.	28375	7/17/2017 7:27:22 PM	7/27/2017 11:26:31 AM	231:59:09
Powell Rd.	28375	8/4/2017 8:16:31 PM	8/4/2017 8:18:51 PM	00:02:20
Powell Rd.	28375	8/5/2017 4:19:32 PM	8/5/2017 4:22:42 PM	00:03:10
Powell Rd.	28375	8/5/2017 11:07:12 PM	8/5/2017 11:11:02 PM	00:03:50
Powell Rd.	28375	8/5/2017 11:26:41 PM	8/5/2017 11:27:41 PM	00:01:00
Powell Rd.	28375	8/6/2017 7:06:02 AM	8/6/2017 7:06:41 AM	00:00:39
Powell Rd.	28375	8/6/2017 7:23:22 AM	8/6/2017 7:24:12 AM	00:00:50
Powell Rd.	28375	8/6/2017 7:34:32 AM	8/6/2017 7:36:42 AM	00:02:10
Powell Rd.	28375	8/6/2017 8:10:13 AM	8/6/2017 8:11:02 AM	00:00:49
Powell Rd.	28375	8/6/2017 8:22:12 AM	8/6/2017 8:22:52 AM	00:00:40
Powell Rd.	28375	8/6/2017 8:33:02 AM	8/6/2017 8:34:02 AM	00:01:00
Powell Rd.	28375	8/6/2017 8:46:21 AM	8/6/2017 8:47:11 AM	00:00:50
Powell Rd.	28375	8/6/2017 10:56:02 PM	8/6/2017 10:56:52 PM	00:00:50
Powell Rd.	28375	8/6/2017 11:12:51 PM	8/6/2017 11:13:21 PM	00:00:30
Powell Rd.	28375	8/6/2017 11:21:21 PM	8/6/2017 11:23:02 PM	00:01:41
Powell Rd.	28375	8/6/2017 11:31:52 PM	8/6/2017 11:32:42 PM	00:00:50
Powell Rd.	28375	8/6/2017 11:39:52 PM	8/6/2017 11:40:52 PM	00:01:00
Powell Rd.	28375	8/6/2017 11:54:32 PM	8/6/2017 11:55:12 PM	00:00:40
Powell Rd.	28375	8/7/2017 2:24:31 AM	8/7/2017 2:25:42 AM	00:01:11
Powell Rd.	28375	8/7/2017 2:49:12 AM	8/7/2017 2:50:02 AM	00:00:50
Powell Rd.	28375	8/7/2017 3:12:22 AM	8/7/2017 3:13:11 AM	00:00:49
Powell Rd.	28375	8/7/2017 3:30:12 AM	8/7/2017 3:31:11 AM	00:00:59
Powell Rd.	28375	8/7/2017 4:04:53 AM	8/7/2017 4:05:53 AM	00:01:00
Powell Rd.	28375	8/7/2017 4:24:33 AM	8/7/2017 4:25:12 AM	00:00:39
Powell Rd.	28375	8/7/2017 4:43:02 AM	8/7/2017 4:43:51 AM	00:00:49
Powell Rd.	28375	8/7/2017 4:51:22 AM	8/7/2017 4:52:22 AM	00:01:00
Powell Rd.	28375	8/7/2017 4:59:02 AM	8/7/2017 5:00:03 AM	00:01:01
Powell Rd.	28375	8/7/2017 5:06:52 AM	8/7/2017 5:07:42 AM	00:00:50
Powell Rd.	28375	8/7/2017 5:14:53 AM	8/7/2017 5:15:42 AM	00:00:49
Powell Rd.	28375	8/7/2017 5:24:03 AM	8/7/2017 5:25:02 AM	00:00:59
Powell Rd.	28375	8/7/2017 5:32:32 AM	8/7/2017 5:33:32 AM	00:01:00
Powell Rd.	28375	8/7/2017 5:41:01 AM	8/7/2017 5:41:51 AM	00:00:50
Powell Rd.	28375	8/7/2017 5:50:52 AM	8/7/2017 5:51:42 AM	00:00:50
Powell Rd.	28375	8/7/2017 5:59:01 AM	8/7/2017 5:59:56 AM	00:00:55
Powell Rd.	28375	8/7/2017 6:08:12 AM	8/7/2017 6:09:01 AM	00:00:49
Powell Rd.	28375	8/7/2017 6:18:12 AM	8/7/2017 6:19:02 AM	00:00:50
Powell Rd.	28375	8/7/2017 6:26:32 AM	8/7/2017 6:27:22 AM	00:00:50
Powell Rd.	28375	8/7/2017 6:36:22 AM	8/7/2017 6:37:02 AM	00:00:40
Powell Rd.	28375	8/7/2017 6:46:44 AM	8/7/2017 6:47:32 AM	00:00:48

Powell Rd.	28375	8/7/2017 6:54:21 AM	8/7/2017 6:55:12 AM	00:00:51
Powell Rd.	28375	8/7/2017 7:04:41 AM	8/7/2017 7:05:21 AM	00:00:40
Powell Rd.	28375	8/7/2017 7:31:02 AM	8/9/2017 9:47:01 AM	50:15:59
Powell Rd.	28375	8/10/2017 9:25:52 AM	8/10/2017 9:28:32 AM	00:02:40
Powell Rd.	28375	8/10/2017 10:19:02 AM	8/17/2017 9:19:01 AM	166:59:59
Powell Rd.	28375	8/17/2017 10:09:52 AM	8/17/2017 10:11:11 AM	00:01:19
Powell Rd.	28375	8/17/2017 10:18:21 AM	8/30/2017 8:16:42 AM	309:58:21
Powell Rd.	28375	8/30/2017 10:37:01 AM	9/1/2017 12:01:41 AM	61:21:59
Powell Rd.	28375	9/1/2017 12:01:41 AM	9/6/2017 8:35:11 AM	128:33:30
Powell Rd.	28375	9/9/2017 9:47:41 PM	9/9/2017 9:51:01 PM	00:03:20
Powell Rd.	28375	9/9/2017 10:00:58 PM	9/27/2017 2:10:42 PM	424:09:44
Powell Rd.	28375	10/1/2017 7:29:41 PM		04:29:19
			HH:MM:SS	1765:47:58

CYCLE TIMER SHUTDOWN 12 HRS DAILY	
*NOT ALL ALARMS SHUTDOWN THE SYSTEMS	HH:MM:SS
FLARE DOWNTIME MECHANICAL	1765:47:58
JULY DAILY SHUTDOWN	12 HR CYCLES NA IN THE 3 QTR
AUG DAILY SHUTDOWN	SEE MAINT LOG
SEPT DAILY SHUTDOWN	

Powell Road Omni Alarm System
Oct 1, 2017 to Dec 31, 2017

- Alarm History -				
Station	Device	Alarm Start	Alarm End	Alarm Duration
Input: Flare Failure				
Powell Rd.	28375	10/1/2017 7:29:41 PM	10/13/2017 1:58:12 PM	282:28:31
Powell Rd.	28375	10/17/2017 2:50:41 AM	10/19/2017 10:00:42 AM	55:10:01
Powell Rd.	28375	10/20/2017 7:39:01 PM	11/10/2017 12:23:41 PM	496:44:40
Powell Rd.	28375	11/12/2017 2:10:52 PM	11/12/2017 2:11:52 PM	00:01:00
Powell Rd.	28375	11/12/2017 2:16:42 PM	11/14/2017 11:52:02 AM	45:35:20
Powell Rd.	28375	11/18/2017 10:44:52 PM	12/8/2017 11:00:32 AM	313:14:08
Powell Rd.	28375	12/12/18 2:06:22 AM		525:52:38
Powell Rd.	28375			
Powell Rd.	28375			
Powell Rd.	28375			
Powell Rd.	28375			
HH:MM:SS				1898:05:16

CYCLE TIMER SHUTDOWN 12 HRS DAILY	
*NOT ALL ALARMS SHUTDOWN THE SYSTEMS	HH:MM:SS
FLARE DOWNTIME MECHANICAL	1898:05:16
OCT DAILY SHUTDOWN	12 HR CYCLES NA IN THE 4 QTR
NOV DAILY SHUTDOWN	SEE MAINT LOG
DEC DAILY SHUTDOWN	

APPENDIX E.

LANDFILL GAS AND CONDENSATE COLLECTION SYSTEMS MAINTENANCE SUMMARY REPORTS

Waste Management, Powell Rd Landfill
Landfill Gas and Condensate Collection Systems Maintenance Summary Report

1/2017 TO 3/2017

WM Completed Maintenance

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed
1/19/2017			Damaged Heater	Replaced heater in the compressor building
2/1/2017		Reactive	Gas System	Gas System was down for the Month of Feb. due to field issues with the air leak to the condensate sumps. System was left off to prevent issues that could arise from air intrusion into the site.
3/21/2017	Leachate	Reactive	Broken airline knock out system	Began installing Iso valves to contain damaged line
3/24/2017	Leachate	Reactive	Broken airline knock out system	Installed isolation valves in the airline system: 1 on the north, 1 on the east, 2 on the south and 2 on the west. The damaged line is in the NW corner of the site and has been isolated to allow the system to function.

Additional Comments: 1/12/17 Turned air on to KO 1&2 to pump down levels. 1/13/17 turned air off
1/24/17 Turned air on to KO 1&2 to pump down level. 2/1/17 turned air off.

Waste Management, Powell Rd Landfill
Landfill Gas and Condensate Collection Systems Maintenance Summary Report

4/2017 to 6/2017

WM Completed Maintenance

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed
5/12/2017	Air	Reactive	Crack in HDPE line outside of compressor building	Repaired line using a fusion coupler to make the repair
5/18/2017	Fence	Proactive	Fence-age	Replaced 404' of fence on the Northside of the site along Powell Rd.
6/1/2017	Fence	Proactive	Damaged fence	Repaired several areas of fence around the site
6/16/2017	Flare compound	Reactive	Weed and grass control	Mowed and cleared flare yard

Additional Comments: The flare is currently down as of 7/17/17, working with the WM Gas Manager to review system data and define a course of action.
The flare will not run consistently during the 12 hr on cycle.

Waste Management, Powell Rd Landfill

Landfill Gas and Condensate Collection Systems Maintenance Summary Report

7/17-9/17

WM Completed Maintenance

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed
7/7/2017	Flare	Reactive	unknown	Reprogrammed flare timer to run 24/7 due to issues with flare not restarting after a cycle shutdown. This will help determine whether the issues are on the restart in the morning or if there are potential issues with the field as far as gas quality.
7/7/2017	Leachate	Reactive	leaking air regulator	Replaced the regulator in the west sump. Old counter was 5322 new counter reading is 203 at install
7/27/2017	Leachate	Reactive	field investigation on flare running inconsistently.	Pulled East and West sump pumps and cleaned each of them and reinstalled. Replaced the regulator in the East sump. Old counter was 40519 new counter read 206 at install.
8/22/2017 - 8/23/2017	Flare skid	Proactive		Certa Pro Painters repainted entire flare skid
8/30/2017	Gas	Reactive	Flare not running properly	Well field water soundings were done to determine the depth of water and available screen to help determine gas availability.
9/16/2017	Flare/Gas	Reactive	propane tank was empty	Contacted Amerigas to refill propane tank. Amerigas gas completed a leak test to verify tank was sound.
9/27/2017	Flare	Proactive		Cleared brush inside flare compound. Merkle was onsite clearing fence line.
9/27/2017	Flare/Gas	Reactive	Flare not running properly	J. Schrott and T. Miller Installed new board in the Thermal Instrument flow meter. Old Totalizer read 20972050. New Meter reading was 3277699 after proper flow calculations.
9/27/2017	Flare/Gas	Reactive	Flare not running properly	J. Schrott and T. Miller installed a new data collector in place of the old Dickson unit to help investigate issues with the flare not running correctly.

Additional Comments:

The Gas Operations Manager at WM and T. Miller are currently collecting landfill gas field and flare data to determine why the flare will not operate consistently in the cycling mode. We are operating the flare without cycling to collect data. It will run for approx 4-9 days and then shutdown. The findings will be used to tweak the system, make recommendations, and to draft a summary.

Waste Management, Powell Rd Landfill**Landfill Gas and Condensate Collection Systems Maintenance Summary Report**

10/17 to 12/17

WM Completed Maintenance

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed

Additional Comments:

The Gas Operations Manager at WM and T. Miller are currently collecting landfill gas field and flare data to determine why the flare will not operate consistently in the cycling mode. We are operating the flare without cycling to collect data. It will run for approx 4-9 days and then shutdown. The findings will be used to tweak the system, make recommendations, and to draft a summary.

APPENDIX F.

BLOWER/FLARE STATION DATA SHEETS

Powell Blower / Flare Station Data

Technician: Tom Miller
 Date: 1/19/2017
 Client: R. Jones, WM
 Site: Powell Rd
 Temperature: 37
 Barometric Press.: 30.01

Before Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In	40.4	27.7	0.9	31	-37	43	348	None
Blower Out	38.8	26.7	1.1	33.4	3.1	69	348	None

After Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In	40.1	27.4	0.7	31.8	-38	46	345	None
Blower Out	39.3	27.6	0.9	32.2	2.9	73	345	None

Blower Data:

	Yes	No	Comments
Blower Operating Properly?	x		
Motor Operating Properly?	x		

Lube Blowers: Check Belts/Drive: Drain Blower: Check Propane: PSI <u>60%</u> Blower Hours: <u>26802.5</u> Blower Amps: <u>15.15</u>	Yes	No	Check Valves: Check Actuator: Check Flame Arrestor: Check Compressor: Check Auto-Dialer: Long Distance Service Active: <u>N/A</u>	Yes	No
	x			x	
	x			x	
	x			x	
	x			x	

Flare Data:

Flare Temperature:	<u>1209</u>	Check Ignition System:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Drain Flare Stack:	<input checked="" type="checkbox"/>	Other:	<u>None</u>	

Compressor Data:

System Pressure:	<u>108</u>	psi	Check Compressor Drains:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Motor:	<input checked="" type="checkbox"/>		Compressor hours	<u>9313</u>	

Comments:	Totalizer 94712432

Powell Blower / Flare Station Data

Technician: Tom Miller
 Date: 5/12/2017
 Client: R. Jones, WM
 Site: Powell Rd
 Temperature: 74
 Barometric Press.: 29.88

Before Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In	42	23.3	3.1	31.6	-37	63	449.5	None
Blower Out	39.8	25.4	3	32.1	3.2	71	449	None

After Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In	41.8	25	2.6	30.6	-38	64	448	None
Blower Out	40.2	26.4	2.3	31.1	3.3	71	448	None

Blower Data:

	Yes	No	Comments
Blower Operating Properly?	x		
Motor Operating Properly?	x		

Lube Blowers:	Yes	No	Check Valves:	Yes	No
Check Belts/Drive:	x		Check Actuator:	x	
Drain Blower:	x		Check Flame Arrestor:	x	
Check Propane: PSI	60%	x	Check Compressor:	x	
Blower Hours:	27503.4		Check Auto-Dialer:	x	
Blower Amps:	12.5		Long Distance Service Active:	N/A	

Flare Data:

Flare Temperature:	1056	Check Ignition System:	x	
Drain Flare Stack:	x	Other:	None	

Compressor Data:

System Pressure:	127	psi	Check Compressor Drains:	x	
Check Motor:	x		Compressor hours		

Comments:	Totalizer 3696019

Blower / Flare Station Data

Technician: Tom Miller
 Date: 9/17/2017
 Client: R. Jones, WM
 Site: Powell Rd
 Temperature: 84
 Barometric Press.: 30.12

Before Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In								See Below
Blower Out								See Below

After Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In								See Below
Blower Out								See Below

Blower Data:

	Yes	No	Comments
Blower Operating Properly?	x		
Motor Operating Properly?	x		

	Yes	No
Lube Blowers:	x	
Check Belts/Drive:	x	
Drain Blower:	x	
Check Propane: PSI	80%	x
Blower Hours:	28149.8	
Blower Amps:	12.96	

	Yes	No
Check Valves:	x	
Check Actuator:	x	
Check Flame Arrestor:	x	
Check Compressor:	x	
Check Auto-Dialer:	x	
Long Distance Service Active:	N/A	

Flare Data:

Flare Temperature:	656
Drain Flare Stack:	x

Check Ignition System:	x	
Other:	None	

Compressor Data:

System Pressure:	139	psi
Check Motor:	x	

Check Compressor Drains:	x	
Compressor hours	12540	

Comments:	Totalizer 1556534
	Do to issues with flare running inconsistently readings have not been taken. We are in the process of investigating the issue. Please see the maintenance log for details.
	9/27/17 J. Schrott. and T. Miller Installed new board in the Thermal Instrument flow meter

Blower / Flare Station Data

Technician: Tom Miller
 Date: 11/14/2018
 Client: R. Jones, WM
 Site: Powell Rd
 Temperature: 44
 Barometric Press.: 30.34

Before Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In								See Below
Blower Out								See Below

After Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In								See Below
Blower Out								See Below

Blower Data:

	Yes	No	Comments
Blower Operating Properly?	x		
Motor Operating Properly?	x		

	Yes	No		Yes	No
Lube Blowers:	x		Check Valves:	x	
Check Belts/Drive:	x		Check Actuator:	x	
Drain Blower:	x		Check Flame Arrestor:	x	
Check Propane: PSI	80%	x	Check Compressor:	x	
Blower Hours:	28513.9		Check Auto-Dialer:	x	
Blower Amps:	14.91		Long Distance Service Active:	N/A	

Flare Data:

Flare Temperature:	1167		Check Ignition System:	x	
Drain Flare Stack:	x		Other:	None	

Compressor Data:

System Pressure:	117	psi	Check Compressor Drains:	x	
Check Motor:	x		Compressor hours	13506	

Comments:	Totalizer 40536220
	Do to issues with flare running inconsistently readings have not been taken. We are in the process of investigating the issue. Please see the maintenance log for details.
	9/27/17 J. Schrott. and T. Miller Installed new board in the Thermal Instrument flow meter

APPENDIX G.

LIQUID HAULING DATA

2017 MONTHLY LIQUID HAULING VOLUMES
POWELL ROAD LANDFILL

Month	Gallons	in. Rain*
Jan-17	0	3.42
Feb-17	0	1.52
Mar-17	0	4.95
Apr-17	0	5.46
May-17	11,000	6.50
Jun-17	0	7.43
Jul-17	0	4.80
Aug-17	0	3.03
Sep-17	0	2.16
Oct-17	0	4.00
Nov-17	0	6.02
Dec-17	0	1.54
Total	11,000	50.83
Monthly Avg	917	4.24
Daily Avg	30.14	0.14

*NCDC(NOAA) - Dayton International Airport

APPENDIX H.

LANDFILL LIQUID ANALYTICAL DATA SUMMARY

TABLE H-1.
PARAMETERS DETECTED IN COLLECTION TANK SAMPLES DURING O & M MONITORING
POWELL ROAD LANDFILL

Parameter	2/17/2000	3/2/2000	3/13/2000	4/10/2000	05/01/00	08/15/00	11/13/00	02/19/01	05/21/01	5/6/02	5/8/03	5/10/04
Inorganics and Metals (mg/L)												
Alkalinity					4940	3790	4160	2520	2420	2970	339	
BOD - Five Day	176	262	252	<374	207	156	143	140	70.8	56.9	89.6	190
Chloride	1870	2090	2130	865	<0.5 R	1690	678	1020	937	813	1680	2340
COD	2200	2520	2560	908	1720	1520	1540	1660	852	650	1250	1360
Cyanide, Total	<0.005	<0.005	0.130	<0.005	<0.02	<0.020	<0.020	<0.020	<0.020			
Fats, Oils, and Grease	<5	12	153	<5	<5.0	<5.0	6.0	<5.0	<5.0	6.2	10.4	<5.0
Fluoride					<0.05	<0.050	<0.050	<0.050	<0.050			
Nitrogen, Ammonia	700	820	890	260	704	901	1120	582	368	235	684	792
Nitrogen, Nitrate + Nitrite		0.03	<0.02	0.03	<0.05	<2.8	<1.0	<0.50	<0.050	<0.050	<0.050	<0.050
Phosphorus		5.79	4.36	1.62	2.8	2.9	3.7	2.6	1.6	1.5	3.0	3.4
pH, (Lab) measured in S.U.	7.53	7.4	7.35	6.92	6.55	7.68	7.72	7.45	7.32	7.40	7.63	7.70
Solids, Total Dissolved	6060	4300	6250	2890	5150	5900	5950	5780	3150	3110	4780	5540
Solids, Suspended	9	8	11	39	72.0	42.5	8.5	11.0	44.0	18.0	40.0	20.0
Sulfate	60	84	75	106	92.9	101	128	122	145	116	117	172
Sulfide	<2	14.7	15.9	<2	2.0	4.3	<2.0	<2.0	2.4	2.1	3.2	<2.0
Total Organic Carbon (TOC)		673	725	290	483	527	567	511	246	194	461	411
Aluminum	0.33	.252	0.33	0.12	0.41	0.38	0.30	0.29	<0.10	<0.10	0.22	0.23
Antimony	<0.01	0.0023	<0.0050	<0.005	<0.006	<0.0063	<0.0063	<0.006	<0.006	<0.003	<0.003	<0.003
Arsenic	0.009	<0.025	0.0019	<0.005	0.046	0.028	0.029	0.036	0.014	0.015	0.028	0.034
Barium	0.299	0.218	0.267	0.253	0.35	0.39	0.37	0.35	0.27	0.44	0.34	0.37
Beryllium	<0.0020	<0.0020	<0.020	<0.0020	<0.004	<0.0010	<0.0010	<0.0010	<0.0010			
Cadmium	<0.0020	<0.0020	<0.0050	<0.0050	0.0026	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001
Calcium	56	52	59.1	118	88.7	71.4	68.6	65.8	102	140	68.9	68.0
Chromium	0.0529	0.0481	0.0688	0.0231	0.062	0.068	0.077	0.080	0.035	0.021	0.057	0.062
Cobalt	0.0274	0.0221	0.0286	0.0201	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Copper	0.0075	<0.015	0.0222	<0.010	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Iron	5.39	7.3	7.31	17.5	11.9	3.2	1.8	6.9	6.2	7.3	4.8	6.4
Lead	0.0212	0.0161	0.0202	0.0104	0.023	0.014	0.018	0.022	0.0067	0.01	0.0085	0.020
Magnesium	126	111	145	64.3	115	116	128	118	78.3	98.3	114	140
Manganese	0.122	0.092	0.095	0.286	0.18	0.12	0.11	0.092	0.23	0.25	0.10	0.093
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Nickel	0.140	0.114	0.156	0.126	0.16	0.15	0.16	0.17	0.085	0.062	0.130	0.130
Potassium	647	564	836	259	401	955	628	821	322	301	523	571
Selenium	<0.050	<0.0250	<0.0050	<0.010	<0.005	<0.0066	<0.0066	<0.0050	<0.0050	<0.005	0.036	0.014
Silver	<0.005	<0.001	<0.005	<0.0025	<0.003	<0.0030	<0.0030	<0.0030	<0.0030	<0.003	<0.003	<0.003
Sodium	1400	1170	1640	512	1720	2240	1780	1760	693	642	1100	1240
Thallium	<0.0020	<0.0020	<0.0050	<0.0050	<0.002	<0.0020	<0.0020	<0.0020	<0.0020			
Tin	<2.0	<2.0	<2.0	<2.0	0.094	0.085	0.093	0.11	<0.010	0.021	0.062	0.054
Vanadium	<0.050	<0.050	<0.050	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050			
Zinc	0.181	0.120	0.164	0.0964	0.16	0.088	0.096	0.10	0.052	0.055	0.057	0.070

TABLE H-1.
PARAMETERS DETECTED IN COLLECTION TANK SAMPLES DURING O & M MONITORING
POWELL ROAD LANDFILL

Parameter	2/17/2000	3/2/2000	3/13/2000	4/10/2000	05/01/00	08/15/00	11/13/00	02/19/01	05/21/01	5/6/02	5/8/03	5/10/04
Detected Volatile Organic Compounds (ug/L)												
Acetone	1280	3280	861	630	2700	470	<100	1100	470	1400	350	<100
Benzene	<10	10.2	<10	<20	<8	<3	<2	<2	<2	<2	<4	<3
2-Butanone (MEK)	1080	1530	1110	849	3100	730	590	1300	540	1600	470	<29
Carbon Disulfide	<10	<10	<10	<20	<8	<5	7	<5	<5	<5	<5	<5
Chlorobenzene	<10	16.4	<10	<20	<7	<3	<2	3	<2	4	<4	<2
Chloroethane	<50	<50	<50	<100	<8	<5	<5	<5	<5	6	5	<5
1,2-Dibromo-3-chloropropane (DBCP)	<50	<50	<50	<100	<16	<6	<3	<3	<2	<0.10	<0.10	<0.10
cis-1,2-dichloroethene		24.2	13.7	<20	17	7	<5	<5	<5	7	<5	<5
1,4-Dichlorobenzene	<100	<100	<100	<100	14	6	<2	9	4	18	10	5
Ethylbenzene	59.3	127	76.9	38.4	20	7	<2	<2	8	21	11	<3
4-Methyl-2-pentanone (MIK)	143	283	130	<250	190	86	120	120	<50	82	51	<50
Methylene chloride	<50	<50	<50	<100	75	<5	<5	32	<5	9	<8	4
Toluene	103	188	124	77.4	52	14	13	16	14	14	17	<4
Xylenes	198	463	278	60.0	100	50	39	44	39	120	61	<10
Vinyl Chloride	<10	<10	<10	<20	<8	<3	<2	<2	<2	3	<4	<6
Detected Semi-Volatile Organic Compounds (ug/L)												
1,4-Dioxane					76	22	320	210	250	810E, 840D	400	510
Meta & para-methylphenol (m & p - Cresol)	<100	<100	128	<100	<37	<10	<10	<10	<10	10	<32	<32
bis (2-ethylhexyl) phthalate	<100	<100	<100	<100	110	29	25	28	13	<10	<65	<68
Detected Herbicides (ug/L)												
Silvex (2,4,5-TP)	<5.1	<5.0		1.52	0.24J	2.2	1.3	2.9	2.5	<1.0	<1.0	<1.1
2,4-D	<5.1	<50.3		<5.15	2.3	<1	<1	<1	<1.0	<1.0	1.4	1.8
Detected Pesticides (ug/L)												
Gamma-BHC(Lindane)	<0.20	<0.20	<2.0	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	<0.20	<0.20	<2.0	<0.20	<0.05	<0.05	<0.05	<0.050J	<0.094	<0.05	<0.05	<0.05
Detected PCBs (ug/L)												
PCB 1242	<0.2	<0.2	<2.0	<0.2	1.2	0.61	0.51	<1.0 J	<1.0	<1.0	<1.0	<1.0
RSK Results (ug/L)												
Ethane												<190
Ethene												<98
Methane												1800

J = estimated value; UJ = estimated non-detect result

Note: Samples collected from UST after start-up of liquid extraction system.

TABLE H-1.
PARAMETERS DETECTED IN COLLECTION TANK SAMPLES DURING O & M MONITORING
POWELL ROAD LANDFILL

Parameter	5/2/05	5/8/06	5/8/07	5/19/08	5/04/09	5/03/10	5/02/11	4/30/12	5/06/13	5/13/14	5/4/2015*	5/4/2016*	5/1/2017*
Inorganics and Metals (mg/L)													
Alkalinity	2940	3950	2080	2230	1250	2480	1450B	4050	4470	2870	3760	3850	3770B
BOD - Five Day	307	105	50.4	31.2	49.6	59.8	16.6	61	92.2	86.1	46.3B	22.6B	16.1
Chloride	2190	2860	1020	724	400	902	325	1600	1650	1360	1660	1540	186
COD	1250	1490	569	554	288	763	209	1370	1540	993	1440	1100	144
Cyanide, Total													
Fats, Oils, and Grease	<5.0	<5.0	<5.0	<5.0	10.1	<5.0	<4.9	<5.0UJ	<5.0	8.9	<5.0	9.2	<4.7
Fluoride													
Nitrogen, Ammonia	570	699	316	273	152	184	93.2	869	677	430	680	525	189
Nitrogen, Nitrate + Nitrite	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.051	<0.050	<0.050	<0.050	<0.050	0.23	<0.050
Phosphorus	1.8	4.2	0.42	0.54	0.583	1.68	0.15	3.3	4.0	2.6	4.8	4.7	1.3
pH, (Lab) measured in S.U.	7.54	7.52	7.30	7.39	7.32	7.37	7.37	7.55	7.73	7.69	7.87	7.95	8.0
Solids, Total Dissolved	4480	6520	2800	3070	1910	3480	1660	5610	5460	4930	4780	4160	1480
Solids, Suspended	15	8	<4.0	30.4	14.4	8.8	13.2	12.8	<4.0	8.8	<4.0	15.6	26
Sulfate	181	118	106	140	<100	67.3	135	94.5	85.7	54.1	<500	105	45.5
Sulfide	4.4	4.8	<2.0	<2.0	<2.0	<2.0	<2.0	<6.7	<2.0	<2.0	<2.0	<2.0	<2.0
Total Organic Carbon (TOC)	365	455	185	146	97.5	203	63.0	382	359	330	363	337	94.3
Aluminum	0.22	0.19	<0.10	<0.10	<0.10	<0.10	<0.10	0.16	0.13	0.11	0.12	0.15	<0.10
Antimony	<0.003	<0.015	<0.015	<0.003	<0.003	<0.005	<0.005	<0.015	<0.015	<0.015	<0.003	<0.015	0.0063
Arsenic	0.020	0.033	0.011	0.014	0.0071	0.0169	0.0073	0.039	0.029	0.024	0.028	0.034	0.01
Barium	0.36	0.37	0.33	0.31	0.346	0.382	0.29	0.42	0.39	0.33	0.34	0.34	0.099
Beryllium													
Cadmium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium	95.9	64.2	131	140	184	158	186	67.6	47.3	53.9	43.6	47.5	60.9
Chromium	0.06	0.07	0.018	0.018	0.0132	0.0276	<0.010	0.055	0.055	0.047	0.055	0.059	<0.010
Cobalt	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Copper	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Iron	1.6	5.2	9.8	6.6	5.04	5.60	4.0	3.7	4.0	5.2	3.8	2.3	10.9
Lead	0.025	0.01	<0.005	<0.005	<0.005	<0.005	0.0092	0.0059	0.0083	0.0074	0.0098	0.0071	<0.005
Magnesium	105	132	96.8	90.6	65.8	89.0	65.7	150	120	108	116	122	30.2
Manganese	0.11	0.079	0.18	0.20	0.326	0.266	0.30	0.080	0.068	0.065	0.066	0.078	0.2
Mercury	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Nickel	0.14	0.16	0.062	0.052	<0.040	0.0775	<0.040	0.16	0.14	0.12	0.14	0.14	<0.040
Potassium	560	681	258	262	159	325	119	625	574	505	590	489	111
Selenium	<0.005	<0.025	<0.025	0.0053	<0.005	<0.005	<0.025	0.033	<0.025	<0.025	<0.005	<0.025	<0.0050
Silver	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Sodium	1070	1410	583	552	334	711	248	1420	1270	1040	1190	1260	227
Thallium													
Tin	0.097	0.088	0.017	0.010	0.0134	0.0379	<0.010	0.066	0.081	0.067	0.086	0.071	<0.010
Vanadium													
Zinc	0.11	0.068	<0.020	<0.020	<0.020	0.0261	0.026	0.039	0.027	0.029	0.032	<0.020	<0.020

TABLE H-1.
PARAMETERS DETECTED IN COLLECTION TANK SAMPLES DURING O & M MONITORING
POWELL ROAD LANDFILL

Parameter	5/2/05	5/8/06	5/8/07	5/19/08	5/04/09	5/03/10	5/02/11	4/30/12	5/06/13	5/13/14	5/4/2015*	5/4/2016*	5/1/2017*
Detected Volatile Organic Compounds (ug/L)													
Acetone	680	380	810	<100	<100	300	<2000	<2000	<200	<100	21	14	<10
Benzene	<3	<18	<7	<7	<20	<20	<40	<40	<20	<10	<2.0	<1.0	<1.0
2-Butanone (MEK)	700	390	1000	<26	<100	250	<100	<100	<200	<100	<20	<10	<10
Carbon Disulfide	<5	<24	<5	<5	<20	<20	<100	<100	<20	<10	<2.0	4.2	<1.0
Chlorobenzene	<2	<16	<6	<6	<20	<20	<40	<40	<20	<10	<1.0	<1.0	<1.0
Chloroethane	<5	<16	<6	<6	<20	<20	<100	<100	<20	<10	<2.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane (DBCP)	<0.10	<0.10	<0.10	<0.010	<0.011	0.037J+	<0.011	0.090	0.090	0.043	0.051	0.072	<0.011
cis-1,2-dichloroethene	<5	<18	<7	<7	<20	<20	<100	<100	<20	<10	<2.0	<1.0	<1.0
1,4-Dichlorobenzene	8	<18	<7	<7	<20	<20	<40	<40	<20	<10	<2.0	1.6	<1.0
Ethylbenzene	3	<17	<7	<7	<20	<20	<40	<40	<20	<10	<2.0	1.0	<1.0
4-Methyl-2-pentanone (MIK)	<50	<120	64	<50	<100	<100	<1000	<1000	<100	<50	10	11	<5.0
Methylene chloride	<4	<22	18	<9	<20	<20	<20	<20	<20	<10	<2.0	<1.0	<1.0
Toluene	18	<17	16	<10	<20	<20	<40	<40	<20	<10	<2.0	2.6	<1.0
Xylenes	43	<46	44	<19	<60	<60	<100	<100	<40	<20	<4.0	5.1	<2.0
Vinyl Chloride	<6	<12	<5	<5	<20	<20	<20	<20	<20	<10	<2.0	<1.0	<1.0
Detected Semi-Volatile Organic Compounds (ug/L)													
1,4-Dioxane	200	650	270E, 300D	290E	130	250	130	390	460	<460 UJ	190	<470	<2500
Meta & para-methylphenol (m & p - Cresol)	<40	<20	<10	<10	<9.4	<95	<19	<19	<190	<460 UJ	<63	<940	<2500
bis (2-ethylhexyl) phthalate	<27	<26	<10	<10	<10	<24	<9.4	<9.5	<94	<460 UJ	<32	<470	<2500
Detected Herbicides (ug/L)													
Silvex (2,4,5-TP)	<1.0	4.6	<1.0	<1.0	<0.48	<0.47	<0.47	<0.47UJ	2.1	<0.47	<4.8	<4.0	<5.0
2,4-D	<1.0	<1.0	<1.0	<1.0	<1.0	<0.47	<0.47	<0.47UJ	<0.47	<0.47	<4.8	<4.0	<5.0
Detected Pesticides (ug/L)													
Gamma-BHC(Lindane)	<0.05	<0.05	<0.05	<0.05	<0.047	0.055J-	<0.047	<0.047UJ	<0.94	<0.46	<0.46	<0.95	<0.050
Heptachlor	0.11	<0.05	0.052	0.082	0.095	<0.048	<0.047	<0.047UJ	<0.94	<0.46	<0.46	<0.95	<0.050
Detected PCBs (ug/L)													
PCB 1242	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<0.94	<0.95UJ	<0.94UJ	<0.92 UJ	<0.92	<0.95 UJ	<1.0
RSK Results (ug/L)													
Ethane	<24	<47	<18	<18	<150	<150	<2000	<400	<40	<40	<40	<400	<400
Ethene	<12	<25	<15	<15	<150	<150	<1500	<300	<30	<30	<30	<300	<300
Methane	320	460	220	500	570	140	<1000	550	270	940	410	2500	1200

J = estimated value; UJ = estimated non-detect result

Note: Samples collected from UST after start-up of liquid extraction system.

* The site leachate extraction system was shutdown for the MNA Pilot Test in February 2015. Tank samples after that date are of condensate from the gas extraction system.

APPENDIX I.

WELLFIELD MONITORING DATA

Powell Wellfield Monitoring Data

Technician:	Tom Miller
Date:	1/19/2017
Client:	R. Jones, WM
Site:	Powell Rd
Temperature:	37
Barometric Press.:	30.01

ID	DATE	TIME	CH4	CO2	O2	Balance	Initial Static Press.	Temp. (Deg F)	Comments
POWLBLIN	1/19/2017	12:03	40.4	27.7	0.9	31.0	-37	43.0	
POWLBLOT	1/19/2017	12:08	38.8	26.7	1.1	33.4	3.1	69.0	
POWL0001	1/19/2017	12:38	40.2	31.9	0.1	25.9	-1.7	42.0	
POWL0002	1/19/2017	12:43	62.8	33.9	0.1	1.3	-8.4	53.0	
POWL0003	1/19/2017	12:50	48.6	35.9	0.1	13.5	-3.5	50.0	
POWL0004	1/19/2017	12:54	4.3	7.1	15.7	71.0	-0.9	35.0	
POWL0005	1/19/2017	12:57	44.0	36.7	0.1	17.3	-5	51.0	
POWL0006	1/19/2017	13:52	38.1	34.2	0.1	25.7	-5.1	49.0	
POWL0007	1/19/2017	13:56	38.3	32.5	0.1	27.2	-5.3	41.0	
POWL0008	1/19/2017	13:59	24.7	26.8	0.8	45.8	-0.7	38.0	
POWL0009	1/19/2017	14:04	2.2	2.0	19.7	76.1	-0.1	37.0	
POWL0010	1/19/2017	14:10	2.2	2.5	19.8	75.5	0	35.0	
POWL0011	1/19/2017	14:14	32.3	27.9	0.1	37.8	-2.6	35.0	
POWL0012	1/19/2017	14:21	2.4	2.2	19.9	75.5	-0.3	34.0	
POWL0013	1/19/2017	14:27	39.9	29.0	1.0	28.2	-5.1	33.0	
POWL0014	1/19/2017	13:20	0.1	4.5	17.5	76.0	-0.1	33.0	
POWL0015	1/19/2017	13:16	43.6	27.6	0.1	26.8	-7	49.0	
POWL0016	1/19/2017	12:20	1.3	17.9	1.2	77.7	-0.1	49.0	
POWL0017	1/19/2017	12:26	23.9	23.2	3.6	47.4	-1.1	32.0	
POWL0018	1/19/2017	12:30	40.8	30.1	0.1	27.1	-9	53.0	
POWL0019	1/19/2017	13:09	58.9	16.6	4.9	17.7	-9.6	35.0	
POWL0020	1/19/2017	13:13	63.7	26.7	1.1	6.6	-36.1	35.0	
POWL0021	1/19/2017	13:33	7.4	5.3	16.0	69.4	-0.5	33.0	
POWL0022	1/19/2017	13:38	72.9	18.6	1.3	5.3	-3.6	35.0	
POWL0023	1/19/2017	13:42	54.5	29.7	2.0	11.9	-35.4	50.0	
POWL0024	1/19/2017	13:46	3.0	1.4	20.6	75.0	-5.3	38.0	
POWL0025	1/19/2017	13:03	63.2	28.7	1.1	5.1	-35.3	38.0	
POWL0026	1/19/2017	13:06	62.4	32.7	0.9	2.1	-14.5	40.0	
POWLBLIN	1/19/2017	14:36	40.1	27.4	0.7	31.8	-38	46.0	
POWLBLOT	1/19/2017	14:40	39.3	27.6	0.9	32.2	2.9	73.0	

Comments:

Powell Wellfield Monitoring Data

Technician: Tom Miller
 Date: 5/12/2017
 Client: R. Jones, WM
 Site: Powell Rd
 Temperature: 74
 Barometric Press.: 29.88

ID	DATE	TIME	CH4	CO2	O2	Balance	Initial Static Press.	Temp. (Deg F)	Comments
POWLBLIN	5/12/2017	8:52	40.4	27.7	0.9	31.0	-37	71	
POWLBLOT	5/12/2017	8:55	38.8	26.7	1.1	33.4	3.1	83	
POWL0001	5/12/2017	9:05	2.8	1.6	19.5	76.1	-0.9	66	
POWL0002	5/12/2017	9:10	52.6	31.9	0.2	13.4	-9.8	69	
POWL0003	5/12/2017	9:18	41.0	34.3	0.6	22.2	-2.2	71	
POWL0004	5/12/2017	9:22	21.0	22.6	3.1	51.4	-0.7	73	
POWL0005	5/12/2017	9:29	49.2	37.5	0.9	10.5	-1.4	73	
POWL0006	5/12/2017	9:39	43.4	34.3	0.1	20.3	-2.3	71	
POWL0007	5/12/2017	9:48	31.0	30.7	0.5	35.9	-4.8	80	
POWL0008	5/12/2017	9:52	9.4	21.9	1.9	64.9	-1.1	75	
POWL0009	5/12/2017	10:08	3.0	1.1	19.7	76.2	-0.2	72	
POWL0010	5/12/2017	10:06	3.0	1.3	19.8	75.9	-0.3	74	
POWL0011	5/12/2017	10:04	15.8	20.4	4.6	57.3	-3.7	64	
POWL0012	5/12/2017	10:13	2.1	4.9	15.7	77.3	-0.6	75	
POWL0013	5/12/2017	10:16	24.1	23.5	2.8	47.7	-6.1	80	
POWL0014	5/12/2017	10:19	0.8	3.2	17.8	78.2	-0.1	77	
POWL0015	5/12/2017	10:21	34.5	26.3	0.1	37.2	-2.7	78	
POWL0016	5/12/2017	10:23	2.0	16.2	2.8	79.0	-0.3	79	
POWL0017	5/12/2017	10:26	23.2	24.8	2.5	47.6	-1.2	77	
POWL0018	5/12/2017	10:27	30.5	27.5	0.1	40.0	-6.5	78	
POWL0019	5/12/2017	10:31	57.6	14.7	4.9	20.9	-8.2	74	
POWL0020	5/12/2017	10:34	55.0	25.8	0.9	16.4	-37.1	77	
POWL0021	5/12/2017	10:38	2.1	3.5	16.9	75.6	-1.7	72	
POWL0022	5/12/2017	10:47	58.6	19.8	0.7	19.0	-8.0	75	
POWL0023	5/12/2017	10:53	59.5	26.9	0.3	11.4	-17.4	74	
POWL0024	5/12/2017	11:28	36.1	16.9	8.4	36.7	-6.9	62	
POWL0025	5/12/2017	11:33	56.5	29.3	1.3	11.0	-35.6	75	
POWL0026	5/12/2017	11:40	63.9	29.0	1.4	3.8	-19.2	72	
POWLBLIN	5/12/2017	12:03	40.1	27.4	0.7	31.8	-38.0	73	
POWLBLOT	5/12/2017	12:07	39.3	27.6	0.9	32.2	2.9	86	

Comments:

Wellfield Monitoring Data

Technician: Tom Miller
 Date: 9/17/2017
 Client: R. Jones, WM
 Site: Powell Rd
 Temperature: 84
 Barometric Press.: 30.12

ID	DATE	TIME	CH4	CO2	O2	Balance	Initial Static Press.	Temp. (Deg F)	Comments
POWLBLIN									See Below
POWLBLOT									
POWL0001									
POWL0002									
POWL0003									
POWL0004									
POWL0005									
POWL0006									
POWL0007									
POWL0008									
POWL0009									
POWL0010									
POWL0011									
POWL0012									
POWL0013									
POWL0014									
POWL0015									
POWL0016									
POWL0017									
POWL0018									
POWL0019									
POWL0020									
POWL0021									
POWL0022									
POWL0023									
POWL0024									
POWL0025									
POWL0026									
POWLBLIN									
POWLBLOT									

Comments: Do to issues with flare running inconsistently readings have not been taken. We are in the process of investigating the issue. Please see the maintenance log for details.

Wellfield Monitoring Data

Technician: Tom Miller
 Date: 11/14/2017
 Client: R. Jones, WM
 Site: Powell Rd
 Temperature: 44
 Barometric Press.: 30.34

ID	DATE	TIME	CH4	CO2	O2	Balance	Initial Static Press.	Temp. (Deg F)	Comments
POWLBLIN									See Below
POWLBLOT									
POWL0001									
POWL0002									
POWL0003									
POWL0004									
POWL0005									
POWL0006									
POWL0007									
POWL0008									
POWL0009									
POWL0010									
POWL0011									
POWL0012									
POWL0013									
POWL0014									
POWL0015									
POWL0016									
POWL0017									
POWL0018									
POWL0019									
POWL0020									
POWL0021									
POWL0022									
POWL0023									
POWL0024									
POWL0025									
POWL0026									
POWLBLIN									
POWLBLOT									

Comments: Do to issues with flare running inconsistently readings have not been taken. We are in the process of investigating the issue. Please see the maintenance log for details.

APPENDIX J.

SIERRA MONITOR INSPECTION REPORTS

Powell Sierra Monitors

Date: 3/1/2017
Technician: TOM MILLER

	ADDRESS, NAME & PHONE NUMBER	MONITOR FUNCTIONING PROPERLY?	MONITOR CALIBRATED?	MONITOR NEEDS ATTENTION?
1	Onsite Compressor Building	Yes	No	No

COMMENTS:

Powell Sierra Monitors

Date: 6/16/2017
Technician: TOM MILLER

	ADDRESS, NAME & PHONE NUMBER	MONITOR FUNCTIONING PROPERLY?	MONITOR CALIBRATED?	MONITOR NEEDS ATTENTION?
1	Onsite Compressor Building	Yes	No	No

COMMENTS:

Powell Sierra Monitors

Date: 9/27/2017
Technician: TOM MILLER

	ADDRESS, NAME & PHONE NUMBER	MONITOR FUNCTIONING PROPERLY?	MONITOR CALIBRATED?	MONITOR NEEDS ATTENTION?
1	Onsite Compressor Building	Yes	No	No

COMMENTS:

Powell Sierra Monitors

Date: 11/14/2017
Technician: TOM MILLER

	ADDRESS, NAME & PHONE NUMBER	MONITOR FUNCTIONING PROPERLY?	MONITOR CALIBRATED?	MONITOR NEEDS ATTENTION?
1	Onsite Compressor Building	Yes	No	No

COMMENTS: _____

APPENDIX K.

GAS PROBE MONITORING REPORTS

PERMANENT GAS PROBE MONITORING REPORT
LANDFILL GAS EXTRACTION SYSTEM
POWELL ROAD LANDFILL

Combustible Gas Instrument Type:	CES Landtec GEM 5000	Serial No.:	gm5k0000-200-I
Date Last Calibrated:	3/1/2017	Method:	GA/Mode
Pressure Instrument Type:	CES Landtec GEM 5000	Serial No.:	gm5k0000-200-I
Water Level Instrument Type:	SOLINIST MODEL 101	Serial No.:	N/A
Weather Conditions:	50° Wet	Barometric Pressure:	29.72

Monitor Point	Time	Pressure In. W.C. (+/-)	Percent Methane	Water Level	Comments
GP-1	10:16	0.00	0.0	17.3	No Comments
GP-2	10:26	0.00	0.0	18.4	* See Below
GP-3	9:45	0.00	0.0	11.6	No Comments
GP-4	9:40	0.01	0.0	14.5	No Comments
GP-5	9:35	0.01	0.0	11.5	No Comments
GP-6	9:26	-0.02	0.0	12.8	No Comments

* GP-2 is silted in to approximately 18 feet. 10 feet of open screen is open above that.

Date Performed: 3/1/2017

By: TOM MILLER

PERMANENT GAS PROBE MONITORING REPORT
LANDFILL GAS EXTRACTION SYSTEM
POWELL ROAD LANDFILL

Combustible Gas Instrument Type:	CES Landtec GEM 5000	Serial No.:	gm5k0000-200-I
Date Last Calibrated:	6/16/2017	Method:	GA/Mode
Pressure Instrument Type:	CES Landtec GEM 5000	Serial No.:	gm5k0000-200-I
Water Level Instrument Type:	SOLINIST MODEL 101	Serial No.:	N/A
Weather Conditions:	81° dry	Barometric Pressure:	29.86

Monitor Point	Time	Pressure In. W.C. (+/-)	Percent Methane	Water Level	Comments
GP-1	8:42	0.00	0.0	17.5	No Comments
GP-2	9:08	0.01	0.0	18.2	* See Below
GP-3	9:12	0.00	0.0	11.8	No Comments
GP-4	9:53	0.02	0.0	14.1	No Comments
GP-5	10:06	0.01	0.0	11.6	No Comments
GP-6	9:38	-0.01	0.0	12.2	No Comments

* GP-2 is silted in to approximately 18 feet. 10 feet of open screen is open above that.

Date Performed: 6/16/2017

By: TOM MILLER

PERMANENT GAS PROBE MONITORING REPORT
LANDFILL GAS EXTRACTION SYSTEM
POWELL ROAD LANDFILL

Combustible Gas Instrument Type:	CES Landtec GEM 5000	Serial No.:	gm5k0000-200-I
Date Last Calibrated:	9/27/2017	Method:	GA/Mode
Pressure Instrument Type:	CES Landtec GEM 5000	Serial No.:	gm5k0000-200-I
Water Level Instrument Type:	SOLINIST MODEL 101	Serial No.:	N/A
Weather Conditions:	82° dry	Barometric Pressure:	30.12

Monitor Point	Time	Pressure In. W.C. (+/-)	Percent Methane	Water Level	Comments
GP-1	10:07	0.01	0.0	17.6	No Comments
GP-2	10:18	0.01	0.0	18	* See Below
GP-3	10:23	0.00	0.0	11.8	No Comments
GP-4	10:56	0.01	0.0	13.9	No Comments
GP-5	11:07	0.00	0.0	11.8	No Comments
GP-6	10:47	0.02	0.0	12.1	No Comments

* GP-2 is silted in to approximately 18 feet. 10 feet of open screen is open above that.

Date Performed: 9/27/2017

By: TOM MILLER

PERMANENT GAS PROBE MONITORING REPORT
LANDFILL GAS EXTRACTION SYSTEM
POWELL ROAD LANDFILL

Combustible Gas Instrument Type:	CES Landtec GEM 5000	Serial No.:	gm5k0000-200-I
Date Last Calibrated:	11/14/2017	Method:	GA/Mode
Pressure Instrument Type:	CES Landtec GEM 5000	Serial No.:	gm5k0000-200-I
Water Level Instrument Type:	SOLINIST MODEL 101	Serial No.:	N/A
Weather Conditions:	43° dry	Barometric Pressure:	30.40

Monitor Point	Time	Pressure In. W.C. (+/-)	Percent Methane	Water Level	Comments
GP-1	11:12	0.10	0.0	15.5	No Comments
GP-2	11:05	0.00	0.0	17.9	* See Below
GP-3	10:58	-0.01	0.0	10.4	No Comments
GP-4	10:54	0.00	0.0	12.4	No Comments
GP-5	10:48	0.00	0.0	11.6	No Comments
GP-6	10:42	-0.01	0.0	11.3	No Comments

* GP-2 is silted in to approximately 18 feet. 10 feet of open screen is open above that.

Date Performed: 11/14/2017

By: TOM MILLER

APPENDIX L.

MONITORING WELL INTEGRITY REPORTS

MONITORING WELL INTEGRITY REPORT

(✓) YES

(X) NO

(NA) NOT APPLICABLE

Date:

5/1/17

Facility Name: Powell Road Landfill

Inspected by: A.Gannon / Z. Dobey

	Monitoring Well									
	MW02AR	MW02B	MW04AR	MW04BRR	MW05AR	MW05BR	MW07AR	MW12A	MW12B	MW13B
<u>A. Location / Identification</u>	X	X	X	X	X	X	X	X	X	X
1. Is well flagged/painted?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is well labeled inside / outside?	X	X	X	X	X	X	X	✓	✓	✓
3. Is well situated away from a low point or point or ponded water?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Is wellhead area free of waste, stored chemicals, etc.?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is well readily accessible?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. If in vulnerable traffic area, is well surrounded by protective posts?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7. Is the well location appropriately shown on facility permit and/or design drawing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. Is well elevation information correct?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>B. Surface Seal</u>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1. Is there a concrete surface seal in good conditions (i.e., no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is the seal snug against the casing and ground surface?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the seal sloped away from the wellhead?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>C. External Casing</u>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1. Does well have external casing in good condition (i.e. no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is well locked?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is lock in good condition (i.e. no severe rust)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Does cap and lock effectively prevent tampering?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing/annulus in good condition and free of water/live animals/debris?	✓	✓	✓	✓	✓	✓	✓	✓	✓	X
6. Do above-ground wells have weep holes at the base of protective casing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>D. Internal Casing</u>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1. Is internal casing at least 1 foot above ground?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is casing tight horizontally/vertically/rotationally?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the cap snugly fitting/in good condition/made of suitable materials?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Is sampling equipment in good condition (tubing, etc.)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing free of live animals/debris/kinks or bends?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Comments: Items marked with an "X" (No) are explained on the attached sheet.

MONITORING WELL INTEGRITY REPORT

(✓) YES

(X) NO

(NA) NOT APPLICABLE

Date:

5/1/17

Facility Name: Powell Road Landfill

Inspected by: A.Graham 12.06.14

	Monitoring Well									
	MW02AR	MW02B	MW04AR	MW04BRR	MW05AR	MW05BR	MW07AR	MW12A	MW12B	MW13B
<u>A. Location / Identification</u>										
1. Is well flagged/painted?	X	X	X	X	X	X	X	X	X	X
2. Is well labeled inside / outside?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is well situated away from a low point or point or ponded water?	X	X	X	X	X	X	X	✓	✓	✓
4. Is wellhead area free of waste, stored chemicals, etc.?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is well readily accessible?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. If in vulnerable traffic area, is well surrounded by protective posts?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7. Is the well location appropriately shown on facility permit and/or design drawing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. Is well elevation information correct?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>B. Surface Seal</u>										
1. Is there a concrete surface seal in good conditions (i.e., no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is the seal snug against the casing and ground surface?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the seal sloped away from the wellhead?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>C. External Casing</u>										
1. Does well have external casing in good condition (i.e. no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is well locked?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is lock in good condition (i.e. no severe rust)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Does cap and lock effectively prevent tampering?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing/annulus in good condition and free of water/live animals/debris?	✓	✓	✓	✓	✓	✓	✓	✓	✓	X
6. Do above-ground wells have weep holes at the base of protective casing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>D. Internal Casing</u>										
1. Is internal casing at least 1 foot above ground?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is casing tight horizontally/vertically/rotationally?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the cap snugly fitting/in good condition/made of suitable materials?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Is sampling equipment in good condition (tubing, etc.)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing free of live animals/debris/kinks or bends?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Comments: Items marked with an "X" (No) are explained on the attached sheet.

The following text provides explanations for the items marked "No" on the Monitoring Well Integrity Report for May 1, 2017.

Item A. Location / Identification

1. Is well flagged / painted?

Most of the monitoring wells at the Powell Road Landfill (PRL) are constructed with silver or gold anodized aluminum guard pipes. These guard pipes are highly visible and do not require paint. Monitoring wells MW13B, MW13C, MW14B, MW15B, and MW15C are located off of the PRL property, south of the Great Miami River. These wells are equipped with 3/8-inch thick steel guard pipes over the anodized aluminum guard pipes. These secondary guard pipes were put on to protect the wells from vandalism (primarily from gun shots). These secondary guard pipes are not painted or flagged so as not to call attention to the wells.

3. Is well situated away from a low point or point of ponded water?

Monitoring wells MW02AR, MW02B, MW04AR, MW04BRR, MW05AR, MW05BR, MW07AR, MW16A, MW16B, MW17A, MW17B, MW18A, and MW18B are located along the southern edge of the landfill area at the PRL; north of the Great Miami River. This area is floodplain and is prone to flooding. Standing water is common in places after flooding or heavy rain. All of these monitoring wells are equipped with surface seals and flood protective well caps on the two inch well casings to prevent surface water from entering the wells.

Item C. External Casing

5. Is casing / annulus in good condition and free of water / live animals/ debris.

Monitoring wells MW13B, MW13C, MW14B, MW15B, and MW15C are equipped with secondary guard pipes as explained previously in Item A.1. Insects (wasps, spiders, ants, beetles) are commonly found within these secondary guard pipes.

MONITORING WELL INTEGRITY REPORT

(✓) YES

(X) NO

(NA) NOT APPLICABLE

Date: 10/31/2017 - 11/2/2017

Facility Name: Powell Road Landfill

Inspected by: C. Gordon, J. Lonsert

	Monitoring Well									
	MW02AR	MW02B	MW04AR	MW04BRR	MW05AR	MW05BR	MW07AR	MW12A	MW12B	MW13B
<u>A. Location / Identification</u>	X	X	X	X	X	X	X	X	X	X
1. Is well flagged/painted?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is well labeled inside / outside?	X	X	X	X	X	X	X	✓	✓	✓
3. Is well situated away from a low point or point or ponded water?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Is wellhead area free of waste, stored chemicals, etc.?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is well readily accessible?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. If in vulnerable traffic area, is well surrounded by protective posts?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7. Is the well location appropriately shown on facility permit and/or design drawing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. Is well elevation information correct?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>B. Surface Seal</u>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1. Is there a concrete surface seal in good conditions (i.e., no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is the seal snug against the casing and ground surface?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the seal sloped away from the wellhead?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>C. External Casing</u>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1. Does well have external casing in good condition (i.e. no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is well locked?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is lock in good condition (i.e. no severe rust)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Does cap and lock effectively prevent tampering?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing/annulus in good condition and free of water/live animals/debris?	✓	✓	✓	✓	✓	✓	✓	✓	✓	X
6. Do above-ground wells have weep holes at the base of protective casing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>D. Internal Casing</u>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1. Is internal casing at least 1 foot above ground?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is casing tight horizontally/vertically/rotationally?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the cap snugly fitting/in good condition/made of suitable materials?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Is sampling equipment in good condition (tubing, etc.)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing free of live animals/debris/kinks or bends?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Comments: Items marked with an "X" (No) are explained on the attached sheet.

MONITORING WELL INTEGRITY REPORT

(✓) YES

(✗) NO

(NA) NOT APPLICABLE

Date: 10/31/2017 - 11/2/2017

Facility Name: Powell Road Landfill

Inspected by: C. Gordon, J. Lonsert

	Monitoring Well									
	MW13C	MW14B	MW15B	MW15C	MW16A	MW16B	MW17A	MW17B	MW18A	MW18B
<u>A. Location / Identification</u>										
1. Is well flagged/painted?	X	X	X	X	X	X	X	X	X	X
2. Is well labeled inside / outside?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is well situated away from a low point or point or ponded water?	✓	✓	✓	✓	X	X	X	X	X	X
4. Is wellhead area free of waste, stored chemicals, etc.?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is well readily accessible?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. If in vulnerable traffic area, is well surrounded by protective posts?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7. Is the well location appropriately shown on facility permit and/or design drawing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. Is well elevation information correct?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>B. Surface Seal</u>										
1. Is there a concrete surface seal in good conditions (i.e., no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is the seal snug against the casing and ground surface?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the seal sloped away from the wellhead?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>C. External Casing</u>										
1. Does well have external casing in good condition (i.e. no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is well locked?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is lock in good condition (i.e. no severe rust)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Does cap and lock effectively prevent tampering?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing/annulus in good condition and free of water/live animals/debris?	X	X	X	X	✓	✓	✓	✓	✓	✓
6. Do above-ground wells have weep holes at the base of protective casing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>D. Internal Casing</u>										
1. Is internal casing at least 1 foot above ground?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is casing tight horizontally/vertically/rotationally?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the cap snugly fitting/in good condition/made of suitable materials?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Is sampling equipment in good condition (tubing, etc.)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing free of live animals/debris/kinks or bends?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Comments: Items marked with an "X" (No) are explained on the attached sheet.

The following text provides explanations for the items marked "No" on the Monitoring Well Integrity Report for October 31, 2017.

Item A. Location / Identification

1. Is well flagged / painted?

Most of the monitoring wells at the Powell Road Landfill (PRL) are constructed with silver or gold anodized aluminum guard pipes. These guard pipes are highly visible and do not require paint. Monitoring wells MW13B, MW13C, MW14B, MW15B, and MW15C are located off of the PRL property, south of the Great Miami River. These wells are equipped with 3/8-inch thick steel guard pipes over the anodized aluminum guard pipes. These secondary guard pipes were put on to protect the wells from vandalism (primarily from gun shots). These secondary guard pipes are not painted or flagged so as not to call attention to the wells.

3. Is well situated away from a low point or point of ponded water?

Monitoring wells MW02AR, MW02B, MW04AR, MW04BRR, MW05AR, MW05BR, MW07AR, MW16A, MW16B, MW17A, MW17B, MW18A, and MW18B are located along the southern edge of the landfill area at the PRL; north of the Great Miami River. This area is floodplain and is prone to flooding. Standing water is common in places after flooding or heavy rain. All of these monitoring wells are equipped with surface seals and flood protective well caps on the two inch well casings to prevent surface water from entering the wells.

Item C. External Casing

5. Is casing / annulus in good condition and free of water / live animals/ debris.

Monitoring wells MW13B, MW13C, MW14B, MW15B, and MW15C are equipped with secondary guard pipes as explained previously in Item A.1. Insects (wasps, spiders, ants, beetles) are commonly found within these secondary guard pipes.

APPENDIX M.

GROUNDWATER QUALITY DATA SUMMARIES (On CD)

TABLE M-1.
SUMMARY OF VOCs AND SVOCs IN WELLS WITH DETECTIONS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO
(concentrations in ug/L)

	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
	MCLs		2			100		70;100	5	200		5	5	10,000
	10^4 Risk ¹		4						25,000					46 ⁵
	ARARS ²		2						5				5	
ONSITE Shallow Zone	MW02A	12/88	-	-	-	-	-	-	-	-	-	-	-	-
		4/89	-	-	-	-	-	3 J	-	-	3 J	-	-	-
		1-2/91	-	-	-	-	7	6	-	-	-	-	-	-
		3/93	-	-	-	-	-	-	-	-	-	-	-	-
		2/95	-	-	-	-	-	-	-	-	-	-	-	-
		5/95	[4J]	-	4J	-	-	6J	-	-	-	-	-	-
		8/95	[7J (7J)]	-	-	-	-	5J (5J)	-	-	-	-	-	-
		12/95	0.8J	-	-	-	-	2.2	-	-	-	-	-	-
		5/96	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
		11/96	0.58J	-	-	-	-	5.4	-	-	-	-	-	-
		5/97	[3.6(3.9)]	-(-)	-(-)	-(-)	-(-)	2.6(2.6)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
		11/97	-	-	-	-	-	3.5	-	-	-	-	-	-
		9/98	0.86J	-	-	0.66J	-	2.1	-	-	-	-	-	-
		5/99	-	-	-	0.46	-	0.22	-	-	-	-	-	-
	MW02AR	5/00	-	-	-	-	-	-	-	-	-	-	-	-
		8/00	-	-	-	-	-	-	-	-	-	-	-	-
		11/00	-	-	-	-	-	-	-	-	-	-	-	-
		2/01	-	-	-	-	-	-	-	-	-	-	-	-
		5/01	-	-	-	-	-	-	-	-	-	-	-	-
		8/01	-	-	-	-	-	-	-	-	-	-	-	-
		11/01	-	-	-	-	-	-	-	-	-	-	-	-
		2/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/02	-	-	-	-	-	-	-	-	-	-	-	-
		8/02	-	-	-	-	-	-	-	-	-	-	-	-
		11/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/03	-	-	-	-	-	-	-	-	-	-	-	-
		11/03	-	-	-	-	-	-	-	-	-	-	-	-
		5/04	-	-	-	-	-	-	-	-	-	-	-	-
		11/04	-	-	-	-	-	-	-	-	-	-	-	-
		5/05	-	-	-	-	-	-	-	-	-	-	-	-
		11/05	-	-	-	-	-	-	-	-	-	-	-	-
		5/06	-	-	-	-	-	-	-	-	-	-	-	-
		11/06	-	-	-	-	-	-	-	-	-	-	-	-
		05/07	-	-	-	-	-	-	-	-	-	-	-	-
		11/07	-	-	-	-	-	-	-	-	-	-	-	-
		5/08	-	-	-	-	-	-	-	-	-	-	-	-
		11/08	-	-	-	-	-	-	-	-	-	-	-	-
		5/09	-	-	-	-	-	-	-	-	-	-	-	-
		11/09	-	-	-	-	-	-	-	-	-	-	-	-
		5/10	-	-	-	-	-	-	-	-	-	-	-	-
		11/10	-	-	-	-	-	-	-	-	-	-	-	-
		5/11	-	-	-	-	-	-	-	-	-	-	-	-
		10/11	-	-	-	-	-	-	-	-	-	-	-	-
		5/12	-	-	-	-	-	-	-	-	-	-	-	-
		11/12	-	-	-	-	-	-	-	-	-	-	-	-
		5/13	-	-	-	-	-	-	-	-	-	-	-	-
		11/13	-	-	-	-	-	-	-	-	-	-	-	-
		5/14	-	-	-	-	-	-	-	-	-	-	-	-
		11/14	-	-	-	-	-	-	-	-	-	-	-	-
		5/15	-	-	-	-	-	-	-	-	-	-	-	-
		11/15	-	-	-	-	-	-	-	-	-	-	-	-
		5/16	-	-	-	-	-	-	-	-	-	-	-	-
		10/16	-	-	-	-	-	-	-	-	-	-	-	-
		5/17	-	-	-	-	-	-	-	-	-	-	-	15
		11/17	-	-	-	-	-	-	-	-	-	-	-	24
	MW03A	12/88	-	-	2 J	-	-	-	-	-	-	-	-	-
		4/89	[28]	-	8 J	1 J	3 J	48	-	-	-	3 J	-	-
		1-2/91	-	12(12)	4 J (4 J)	1 (1 J)	-	-	-	-	1 J	-	1 J	-
		3/93	-	-	-	-	-	-	-	-	-	-	-	-
		2/95	-	-	-	-	-	-	-	-	-	-	-	-
		5/95	-	-	-	-	-	-	-	-	-	-	-	-
		8/95	-	-	-	-	-	-	-	-	-	-	-	-
		12/95	-	-	0.8J	1.4	-	-	-	-	-	-	-	-
		5/96	-	-	0.9J	1J	-	-	-	-	-	-	-	-
		11/96	-	1.2	-	1.1	-	2.9	-	-	-	-	-	-

J = estimated value

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1,2-DCE (total) was detected as cis-1,2-DCE during 3/93, 5/97, and 11/97 events

J values for Methylene Chloride, carbon disulfide, and acetone not listed

¹ Risk-level cleanup levels from Powell Road Landfill ROD, Table 21

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Supporting Table November 2017

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Monitoring wells and residential wells not listed had no detections of VOCs

MCL for cis-1,2-DCE is 70; for trans-1,2-DCE is 100

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POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO
(concentrations in ug/L)

	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
			2			100		70;100	5	200	5	5	10,000	
			10 ⁻⁴ Risk ¹						25,000					46 ⁵
			ARARS ²	2					5				5	
ONSITE Shallow Zone	MW04A	12/88	[6J]	-	98	3 J	7	1 J	-	-	-	4 J	-	
		4/89	-	-	-	3 J	3 J	-	-	-	-	3 J	-	
		1-2/91	-	-	27	6	8	1 J	-	-	-	1 J	-	
		3/93	1.4 (1.3)	-	35 (31)	4.7 (4.3)	4.9 (3.8)	1.7 (1.4)	-	-	-	-	-	
		2/95	-	-	11	6 J	2 J	-	-	-	-	-	-	
		5/95	-	-	6 J	4 J	2 J	-	-	-	-	-	-	
		8/95	-	-	14	4 J	-	-	-	-	-	-	-	
		12/95	-	-	16	5.6	1	0.6J	-	-	-	-	-	
		5/96	-	-	9	6	0.8J	-	-	-	-	0.6J	-	
		11/96	-	-	0.73J	5.2	-	-	-	-	-	-	-	
		5/97	-	-	4.8	5.8	-	-	-	-	-	-	-	
		11/97	-	-	1.1J	5.5J	-	-	-	-	-	-	-	
		9/98	-	-	3.5	7.2	-	-	-	-	-	-	-	
		5/99	-(-)	-	16(15)	5.3(5.2)	-(-)	0.25(0.23)	-(-)	-(-)	-(-)	0.34(0.33)	-(-)	
		5/00	-	-	-	4.5	-	-	-	-	-	-	-	
		8/00	-	-	9.5	4.4	-	-	-	-	-	-	-	
		11/00	-(-)	-(-)	16(18)	4.8 (4.8)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-
		2/01	-	-	-	2.6	-	-	-	-	-	-	-	
		5/01	-(-)	-(-)	8.5(8.6)	3.6(3.8)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	61(43)
		8/01	-(-)	-(-)	50(49)	3.9(4.3)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	64(74)
		11/01	-	-	13	4.2	-	-	-	-	-	-	-	110
		2/02	-	-	6.8	3.4	-	-	-	-	-	-	-	41
		5/02	-(-)	-(-)	-(-)	3.5(3.7)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	54(49)
		8/02	-	-	-	5.6	-	-	-	-	-	-	-	60
		11/02	-	-	-	5.5	-	-	-	-	-	-	-	110
		5/03	1.0	-	-	2.8	-	-	-	-	-	-	-	40
		11/03	-	-	-	3.7	-	-	-	-	-	-	-	97
		5/04	-	-	-	3.6	-	-	-	-	-	-	-	80
		11/04	-(-)	-(-)	-(-)	5.0(5.1)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	110(110)
		5/05	-	-	-	2 ⁵	-	-	-	-	-	-	-	53
		11/05	-(-)	-(-)	-(-)	2.9(2.9)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	53(50)
		5/06	-(-)	-(-)	-(-)	3.4(3.2)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	72(76)
		11/06	-(-)	-(-)	-(-)	2.7(2.5)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	50(48)
		05/07	-	-	-	2.8	-	-	-	-	-	-	-	51
		11/07	-(-)	-(-)	-(-)	4.6(4.9)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	68(65)
		5/08	-	-	-	2.3	-	-	-	-	-	-	-	49
		11/08	-(-)	-(-)	-(-)	4.1(4.3)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	74(72)
		5/09	-	-	-	2.3(2.3)	-	-	-	-	-	-	-	20(23J)
		11/09	-(-)	-(-)	-(-)	2.2(2.2)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
		5/10	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	11(13)
		11/10	-	-	-	3.9(3.7)	-	-	-	-	-	-	-	17(16)
		5/11	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
		10/11	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	17(12)
		5/12	-	-	-	2.9	-	-	-	-	-	-	-	29
		11/12	-	-	-	2.7(2.8)	-	-	-	-	-	-	-	21
		5/13	-(-)	-(-)	-(-)	-(-)	1.3(1.3)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	28(31)
		11/13	-(-)	-(-)	-(-)	2.0(2.0)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	12(11)
		5/14	-	-	-	2.5	-	-	-	-	-	-	-	40
		11/14	-(-)	-(-)	-(-)	3(3.3)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
		5/15	-	-	-	2.0	-	-	-	-	-	-	-	54
		11/15	-(-)	-(-)	-(-)	3.0(3.1)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	38(33)
		5/16	-	-	-	2.7	-	-	-	-	-	-	-	51
		10/16	-	-	-	2.7(2.6)	-	-	-	-	-	-	-	13(12)
		5/17	-	-	-	2.6	-	-	-	-	-	-	-	34
		11/17	-(-)	-(-)	-(-)	2.4(2.5)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	20(22)
		12/88	-	-	-	-	-	-	-	-	-	-	-	
		4/89	[16]	-	-	-	-	-	-	-	-	-	-	
		1-2/91	-	-	-	-	-	-	-	-	-	-	-	
		3/93	-	-	-	-	-	-	-	-	-	-	-	
		2/95	-	-	-	-	-	-	-	-	-	-	-	
		5/95	-	-	-	-	-	-	-	-	-	-	-	
		8/95	-	-	-	-	-	-	-	-	-	-	-	
		12/95	-	-	0.6J	-	-	-	-	-	-	-	-	
		5/96	-	-	1J	-	-	-	-	-	-	-	-	
		11/96	-	-	-	-	-	-	-	-	-	-	-	
		5/97	-	-	-	-	-	-	-	-	-	-	-	
		11/97	-	-	-	-	-	7.2J	-	-	-	-	-	
		9/98	-	-	-	-	-	-	-	-	-	-	-	
		5/99	-	-	0.87	-	-	-	-	-	-	-	-	

J = estimated value

() = duplicate analysis

1,2-DCE (total) was detected as cis-1,2-DCE during 3/93, 5/97, and 11/97 events

J values for Methylene Chloride, carbon disulfide, and acetone not listed

¹ Risk-level cleanup levels from Powell Road Landfill ROD, Table 21

² Chemical specific Applicable or Relevant and Appropriate Requirements, Powell Road Landfill ROD, Table 22.

³ Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pump. [] = indicates values above MCL

⁴ MW16A resampling because of inconsistent results in 5/96. 5/96 results for Vinyl Chloride and 1,2-DCE are suspect.

⁵ Result reported as <10ug/l due to dilution, estimated result is 4.6 ug/l

⁶ 10-4 Risk Level from USEPA Regional Screening Level (RSL) Tapwater

Supporting Table November 2017

= no detections

Monitoring wells and residential wells not listed had no detections of VOCs

MCL for cis-1,2-DCE is 70; for trans-1,2-DCE is 100

TABLE M-1.
SUMMARY OF VOCs AND SVOCs IN WELLS WITH DETECTIONS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO
(concentrations in ug/L)

	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
	MCLs		2			100		70;100	5	200		5	5	10,000
	10^{-4} Risk ¹		4						25,000					46 ⁵
	ARARS ²		2						5				5	
ONSITE Shallow Zone	MW05AR	5/00	-	-	-	-	-	-	-	-	-	-	-	-
		8/00	-	-	-	-	-	-	-	-	-	-	-	-
		11/00	-	-	-	-	-	-	-	-	-	-	-	-
		2/01	-	-	-	-	-	-	-	-	-	-	-	-
		5/01	-	-	-	-	-	-	-	-	-	-	-	-
		8/01	-	-	-	-	-	-	-	-	-	-	-	-
		11/01	-	-	-	-	-	-	-	-	-	-	-	-
		2/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/02	-	-	-	-	-	-	-	-	-	-	-	-
		8/02	-	-	-	-	-	-	-	-	-	-	-	-
		11/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/03	-	-	-	-	-	-	-	-	-	-	-	-
		11/03	-	-	-	-	-	-	-	-	-	-	-	-
		5/04	-	-	-	-	-	-	-	-	-	-	-	-
		11/04	-	-	-	-	-	-	-	-	-	-	-	-
		5/05	-	-	-	-	-	-	-	-	-	-	-	-
		11/05	-	-	-	-	-	-	-	-	-	-	-	-
		5/06	-	-	-	-	-	-	-	-	-	-	-	-
		11/06	-	-	-	-	-	-	-	-	-	-	-	-
		5/07	-	-	-	-	-	-	-	-	-	-	-	-
		11/07	-	-	-	-	-	-	-	-	-	-	-	-
		5/08	-	-	-	-	-	-	-	-	-	-	-	-
		11/08	-	-	-	-	-	-	-	-	-	-	-	-
		5/09	-	-	-	-	-	-	-	-	-	-	-	-
		11/09	-	-	-	-	-	-	-	-	-	-	-	-
		5/10	-	-	-	-	-	-	-	-	-	-	-	-
		11/10	-	-	-	-	-	-	-	-	-	-	-	-
		5/11	-	-	-	-	-	-	-	-	-	-	-	-
		10/11	-	-	-	-	-	-	-	-	-	-	-	-
		5/12	-	-	-	-	-	-	-	-	-	-	-	-
		11/12	-	-	-	-	-	-	-	-	-	-	-	-
		5/13	-	-	-	-	-	-	-	-	-	-	-	-
		11/13	-	-	-	-	-	-	-	-	-	-	-	-
		5/14	-	-	-	-	-	-	-	-	-	-	-	-
		11/14	-	-	-	-	-	-	-	-	-	-	-	-
		5/15	-	-	-	-	-	-	-	-	-	-	-	-
		11/15	-	-	-	-	-	-	-	-	-	-	-	-
		5/16	-	-	-	-	-	-	-	-	-	-	-	-
		10/16	-	-	-	-	-	-	-	-	-	-	-	-
		5/17	-	-	-	-	-	-	-	-	-	-	-	-
		11/17	-	-	-	-	-	-	-	-	-	-	-	-
ONSITE Deep Zone	MW07A	12/88	[12 (16)]	-	23 (31)	-	28 (29)	[110 (120)]	-	48 (49)	-	2 J (2 J)	-	-
		4/89	-	-	-	-	-	4 J (-)	-	10 (7)	-	-	-	-
		1-2/91	-	-	-	-	-	-	-	-	-	-	-	-
		3/93	-	-	-	-	-	-	-	-	-	-	-	-
		2/95	-	-	-	-	-	-	-	-	-	-	-	-
		5/95	-	-	-	-	-	-	-	-	-	-	-	-
		8/95	-	-	-	-	-	-	-	-	-	-	-	-
		12/95	-	-	-	-	-	-	-	0.6J	-	-	-	-
		6/20/95 ³	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)	5J 4J (5J)	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)
		8/95	-	-	-	-	-	-	-	-	-	-	-	-
		12/95	-	-	4.2 (4.1)	0.9J (0.9J)	0.5J (0.5J)	-	-	(0.5J)	-	-	-	-
		5/96	[20J]	-	4J	1J	1J	33J	-	-	-	-	-	-
		8/96 ⁴	-	-	6J	1J	0.6J	-	-	-	-	-	-	-
ONSITE Residential Zone	MW16A	11/96	-	-	2.3J(2.0)	1.1(0.93)	-	0.69J(0.64J)	-	-	-	-	-	-
		5/97	0.73J	-	4.4	0.97J	-	0.72J	-	-	-	-	-	-
		11/97	-	-	1.7	1.0	-	-	-	-	-	-	-	-
		9/98	-	-	1.9J	0.93J	-	-	-	-	-	-	-	-
		5/99	-	-	1.1	1.1	-	-	-	-	-	-	-	-
		5/00	-	-	-	-	-	-	-	-	-	-	-	-
		8/00	-	-	-	-	-	-	-	-	-	-	-	-
		11/00	-	-	-	-	-	-	-	-	-	-	-	-

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			2			100		70;100	5	200	5	5	10,000	
			10^4 Risk ¹						25,000					46 ⁵
			ARARS ²	2					5				5	
ONSITE Shallow Zone	MW-16A (cont'd)	2/01	-	-	-	-	1.4	-	-	-	-	-	-	-
		5/01	-	-	-	-	-	-	-	-	-	-	-	-
		8/01	-	-	-	-	-	-	-	-	-	-	-	10
		11/01	-	-	-	-	-	-	-	-	-	-	-	-
		2/02	1.0(1.2)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	7J
		5/02	-	-	-	-	-	-	-	-	-	-	-	12
		8/02	-	-	-	-	-	-	-	-	-	-	-	8J
		11/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/03	[2.1](1.8)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
		11/03	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	17(17)
		5/04	-	-	-	-	-	-	-	-	-	-	-	21
		11/04	-	-	-	-	-	-	-	-	-	-	-	10
		5/05	-	-	-	-	-	-	-	-	-	-	-	10
		11/05	-	-	-	-	-	-	-	-	-	-	-	13
		5/06	-	-	-	-	-	-	-	-	-	-	-	11
		11/06	-	-	-	-	-	-	-	-	-	-	-	-
		05/07	1.5	-	-	-	-	-	-	-	-	-	-	22
		11/07	-	-	-	-	-	-	-	-	-	-	-	-
		5/08	-	-	-	-	-	-	-	-	-	-	-	16
		11/08	-	-	-	-	-	-	-	-	-	-	-	10
		5/09	-	-	-	-	-	-	-	-	-	-	-	-
		11/09	-	-	-	-	-	-	-	-	-	-	-	-
		5/10	-	-	-	-	-	-	-	-	-	-	-	-
		11/10	-	-	-	-	-	-	-	-	-	-	-	-
		5/11	-	-	-	-	-	-	-	-	-	-	-	-
		10/11	-	-	-	-	-	-	-	-	-	-	-	13
		5/12	-	-	-	-	-	-	-	-	-	-	-	-
		11/12	1.2	-	-	-	-	-	-	-	-	-	-	-
		5/13	-	-	-	-	-	-	-	-	-	-	-	-
		11/13	-	-	-	-	-	-	-	-	-	-	-	10
		5/14	1.0	-	-	-	-	-	-	-	-	-	-	23
		11/14	-	-	-	-	-	-	-	-	-	-	-	-
		5/15	-	-	-	-	-	-	-	-	-	-	-	-
		11/15	-	-	-	-	-	-	-	-	-	-	-	10
		5/16	-	-	-	-	-	-	-	-	-	-	-	16
		10/16	-	-	-	-	-	-	-	-	-	-	-	-
		5/17	-	-	-	-	-	-	-	-	-	-	-	10
		11/17	-	-	-	-	-	-	-	-	-	-	-	18
MW17A	MW17A	5/00	5.3	-(-)	-(-)	-(-)	-(-)	7.0 (7.0)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
		6/00	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
		8/00	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
		11/00	1.6	-	-	-	-	-	-	-	-	-	-	-
		2/01	[2.1](1.9)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
		5/01	[2.3]	-	-	-	-	-	-	1.2	-	-	-	-
		8/01	[5.4]	-	-	-	-	-	9.2	-	-	-	-	-
		11/01	[5.4](5.3)	-	-	-	-	9.9 (9.7)	-	-	-	-	-	41 (43)
		2/02	[4.5]	-	-	-	-	7.3	-	-	-	-	-	16
		5/02	1.6	-	-	-	-	-	-	-	-	-	-	21
		8/02	-	-	-	-	-	-	-	-	-	-	-	19
		11/02	-	-	-	-	-	-	-	-	-	-	-	28
		5/03	-	-	-	-	-	-	-	-	-	-	-	-
		11/03	-	-	-	-	-	-	-	-	-	-	-	49
		5/04	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	38(43)
		11/04	-	-	-	-	-	-	-	-	-	-	-	35
		5/05	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	21(22)
		11/05	-	-	-	-	-	-	-	-	-	-	-	13
		5/06	-	-	-	-	-	-	-	-	-	-	-	21
		11/06	-	-	-	-	-	-	-	-	-	-	-	28
		05/07	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	23(22)
		11/07	-	-	-	-	-	-	-	-	-	-	-	16
		5/08	-	-	-	-	-	-	-	-	-	-	-	15
		11/08	-	-	-	-	-	-	-	-	-	-	-	29

J = estimated value

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¹ Risk-level cleanup levels from Powell Road Landfill ROD, Table 21

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Supporting Table November 2017

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Monitoring wells and residential wells not listed had no detections of VOCs

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SUMMARY OF VOCs AND SVOCs IN WELLS WITH DETECTIONS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO
(concentrations in ug/L)

ONSITE Shallow Zone	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
	MCLs		2			100		70;100	5	200		5	5	10,000
	10^{-4} Risk ¹			4						25,000				46 ⁵
	ARARS ²			2						5			5	
MW17A (cont'd)	5/09	-	-	-	-	-	-	-	-	-	-	-	-	15
	11/09	-	-	-	-	-	-	-	-	-	-	-	-	43
	5/10	-	-	-	-	-	-	-	-	-	-	-	-	21
	11/10	-	-	-	-	-	-	-	-	-	-	-	-	18
	5/11	-	-	-	-	-	3.4	-	-	-	-	-	-	25
	10/11	-	-	-	-	-	6.4	-	-	-	-	-	-	48
	5/12	-	-	-	-	-	1.2	-	-	-	-	-	-	20
	11/12	-	-	-	-	-	-	-	-	-	-	-	-	26
	5/13	-	-	-	-	-	-	-	-	-	-	-	-	19
	11/13	-	-	-	-	-	2.0	-	-	-	-	-	-	58
	5/14	-	-	-	-	-	-	-	-	-	-	-	-	54
	11/14	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/15	-	-	-	-	-	-	-	-	-	-	-	-	28
	11/15	-	-	-	-	-	-	-	-	-	-	-	-	43
	5/16	-	-	-	-	-	-	-	-	-	-	-	-	33
	10/16	-	-	-	-	-	-	-	-	-	-	-	-	60
	5/17	-	-	-	-	-	-	-	-	-	-	-	-	<50
	11/17	-	-	-	-	-	-	-	-	-	-	-	-	74
MW18A	5/00	-	-	-	-	-	-	-	-	-	-	-	-	-
	6/00	-	-	-	-	-	-	-	-	-	-	-	-	-
	8/00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/00	-	-	-	-	-	-	-	-	-	-	-	-	-
	2/01	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/01	-	-	-	-	-	-	-	-	-	-	-	-	-
	8/01	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/01	-	-	-	-	-	-	-	-	-	-	-	-	-
	2/02	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/02	-	-	-	-	-	-	-	-	-	-	-	-	-
	8/02	-	-	-	-	-	-	-	-	-	-	-	-	43
	11/02	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	5/10	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/03	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/04	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/04	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/05	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/05	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/06	1	-	-	-	-	-	-	-	-	-	-	-	-
	6/06	1.3	-	-	-	-	-	-	-	-	-	-	-	-
	11/06	-	-	-	-	-	-	-	-	-	-	-	-	-

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POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO
(concentrations in ug/L)

ONSITE Shallow Zone	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
	MCLs		2			100		70;100	5	200		5	5	10,000
	10^{-4} Risk ¹			4						25,000				46 ⁵
	ARARS ²			2						5			5	
MW18A (cont'd)	05/07	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/07	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/08	1.2	-	-	-	-	-	-	-	-	-	-	-	-
	11/08	1.6	-	-	-	-	-	-	-	-	-	-	-	10
	5/09	1.3	-	-	-	-	-	-	-	-	-	-	-	-
	11/09	-	-	-	-	-	-	-	-	-	-	-	-	22
	5/10	1.1	-	-	-	-	-	-	-	-	-	-	-	18
	11/10	-	-	-	-	-	-	-	-	-	-	-	-	15
	5/11	-	-	-	-	-	-	-	-	-	-	-	-	11
	10/11	-	-	-	-	-	-	-	-	-	-	-	-	31
	5/12	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/12	-	-	-	-	-	-	-	-	-	-	-	-	17
	5/13	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/13	-	-	-	-	-	-	-	-	-	-	-	-	35
	5/14	-	-	-	-	-	-	-	-	-	-	-	-	21
	11/14	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/15	-	-	-	-	-	-	-	-	-	-	-	-	22
	11/15	-	-	-	-	-	-	-	-	-	-	-	-	19
	5/16	-	-	-	-	-	-	-	-	-	-	-	-	19
	10/16	-	-	-	-	-	-	-	-	-	-	-	-	33
	5/17	-	-	-	-	-	-	-	-	-	-	-	-	39
	11/17	-	-	-	-	-	-	-	-	-	-	-	-	56
MW19A	2/02	1.5	-	-	-	-	-	-	-	-	-	-	-	22
	5/02	-	-	-	-	-	-	-	-	-	-	-	-	18
	8/02	-	-	-	-	-	-	-	-	-	-	-	-	24
	11/02	-	-	-	-	-	-	-	-	-	-	-	-	24
	5/03	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/03	-	-	-	-	-	-	-	-	-	-	-	-	28
	5/04	-	-	-	-	-	-	-	-	-	-	-	-	11
	11/04	-	-	-	-	-	-	-	-	-	-	-	-	32
	5/05	-	-	-	-	-	-	-	-	-	-	-	-	26
	11/05	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/06	-	-	-	-	-	-	-	-	-	-	-	-	23
	11/06	-	-	-	-	-	-	-	-	-	-	-	-	22
	05/07	-	-	-	-	-	-	-	-	-	-	-	-	21
	11/07	-	-	-	-	-	-	-	-	-	-	-	-	18
	5/08	-	-	-	-	-	-	-	-	-	-	-	-	13
	11/08	-	-	-	-	-	-	-	-	-	-	-	-	19

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HUBER HEIGHTS, OHIO
(concentrations in ug/L)

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	MCLs		2			100		70;100	5	200		5	5	10,000
	10^4 Risk ¹									25,000				46 ⁵
	ARARS ²		2						5			5		
MW19A (cont'd)	5/09	-	-	-	-	-	-	-	-	-	-	-	-	15
	11/09	-	-	-	-	-	-	-	-	-	-	-	-	15
	5/10	-	-	-	-	-	-	-	-	-	-	-	-	23
	11/10	-	-	-	-	-	-	-	-	-	-	-	-	34
	5/11	-	-	-	-	-	1.4	-	-	-	-	-	-	17
	10/11	-	-	-	-	-	1.7	-	-	-	-	-	-	41
	5/12	-	-	-	-	-	6.0	-	-	-	-	-	-	26
	11/12	-	-	-	-	-	8.3	-	-	-	-	-	-	49
	5/13	-	-	-	-	-	2.0	-	-	-	-	-	-	18
	11/13	-	-	-	-	-	2.1	-	-	-	-	-	-	42
	5/14	-	-	-	-	-	2	-	-	-	-	-	-	54
	11/14	-	-	-	-	-	1.3	-	-	-	-	-	-	38
	5/15	-	-	-	-	-	-	-	-	-	-	-	-	32
	11/15	-	-	-	-	-	-	-	-	-	-	-	-	42
	5/16	-	-	-	-	-	-	-	-	-	-	-	-	29
	10/16	-	-	-	-	-	-	-	-	-	-	-	-	25
	5/17	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/17	-	-	-	-	-	-	-	-	-	-	-	-	35
MW20A	2/02	[3.2]	-	-	-	-	-	-	-	-	-	-	-	10
	5/02	[4.2]	-	-	-	-	-	9.4	-	-	-	-	-	11
	8/02	[3.2] [3.7]	-	-	-	-	-	7.6 (8.6)	-	-	-	-	-	13 (15)
	11/02	[3.1]	-	-	-	-	-	9.0	-	-	-	-	-	18
	5/03	1.1	-	-	-	-	-	-	-	-	-	-	-	-
	11/03	-	-	-	-	-	-	-	-	-	-	-	-	12
	5/04	-	-	-	-	-	-	-	-	-	-	-	-	11
	11/04	1.1	-	-	-	-	-	-	-	-	-	-	-	23
	5/05	-	-	-	-	-	-	-	-	-	-	-	-	15
	11/05	-	-	-	-	-	-	-	-	-	-	-	-	16
	5/06	-	-	-	-	-	-	-	-	-	-	-	-	81
	11/06	-	-	-	-	-	-	-	-	-	-	-	-	18
	5/07	-	-	-	-	-	-	-	-	-	-	-	-	13
	11/07	-	-	-	-	-	-	-	-	-	-	-	-	91
	5/08	-	-	-	-	-	-	-	-	-	-	-	-	61
	11/08	-	-	-	-	-	-	-	-	-	-	-	-	11
	5/09	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/09	-	-	-	-	-	-	-	-	-	-	-	-	16
	5/10	-	-	-	-	-	-	-	-	-	-	-	-	12
	11/10	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/11	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/11	-	-	-	-	-	1.3	-	-	-	-	-	-	47
	5/12	-	-	-	-	-	-	-	-	-	-	-	-	17
	11/12	-	-	-	-	-	-	-	-	-	-	-	-	22
	5/13	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/13	-	-	-	-	-	-	-	-	-	-	-	-	39
	5/14	-	-	-	-	-	-	-	-	-	-	-	-	44
	11/14	-	-	-	-	-	-	-	-	-	-	-	-	43
	5/15	-	-	-	-	-	-	-	-	-	-	-	-	26
	11/15	-	-	-	-	-	-	-	-	-	-	-	-	25
	5/16	-	-	-	-	-	-	-	-	-	-	-	-	18
	10/16	-	-	-	-	-	-	-	-	-	-	-	-	32
	5/17	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/17	-	-	-	-	-	-	-	-	-	-	-	-	38

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Supporting Table November 2017

= no detections

Monitoring wells and residential wells not listed had no detections of VOCs

MCL for cis-1,2-DCE is 70; for trans-1,2-DCE is 100

[] = indicates values above MCL

TABLE M-1.
SUMMARY OF VOCs AND SVOCS IN WELLS WITH DETECTIONS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO
(concentrations in ug/L)

(concentrations in $\mu\text{g/L}$)														
ONSITE Primary Aquifer	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	I,I DCA	I,2 DCE (total)	TCE	I,1,I TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
	MCLs		2			100		70;100	5	200	5	5	10,000	
	10^4 Risk ¹								25,000					46 ⁶
	ARARS ²		2						5			5		
MW03B	12/88	-	-	-	-	-	-	-	-	-	-	-	-	-
	4/89	-	-	-	-	-	-	-	-	-	-	-	-	-
	1-2/91	-	-	-	-	-	-	-	-	-	-	1 J (-)	-	-
	3/93	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW04B	12/88	-	-	-	5 J	150	-	-	-	-	-	-	-
	4/89	-	-	-	-	-	120	-	-	-	-	-	-	-
	1-2/91	-	-	-	-	-	42	-	-	-	-	-	-	-
	MW04BR	1-2/91	-	-	13 (8 J)	-	41 (130)	-	-	-	-	-	-	-
	3/93	-	-	-	3.4	-	48.6	-	-	-	-	-	-	-
	2/95	-	-	-	-	-	43	-	-	-	-	-	-	-
MW04BRR	5/95	-	-	-	-	-	34	-	-	-	-	-	-	-
	7-8/95	-	-	-	-	-	44	-	-	-	-	-	-	-
	12/95	-	-	-	-	-	29	-	-	-	-	-	-	-
	5/96	-	-	-	-	-	44	-	-	-	-	-	-	-
	11/96	-	-	-	-	-	38J	0.62J	-	-	-	-	-	-
	5/97	-	-	-	0.58J	-	38	-	-	-	-	-	-	-
	11/97	-	-	-	-	-	39 (39)	-	-	-	-	-	-	-
	9/98	-	-	-	-	-	24	-	-	-	-	-	-	-
	5/99	-(-)	-(-)	-(-)	-(-)	-(-)	25(25)	0.22(0.20)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
	MW16B	5/00	-	-	-	-	15	-	-	-	-	-	-	-
MW16B	8/00	-	-	-	-	-	11	-	-	-	-	-	-	-
	11/00	-	-	-	-	-	11	-	-	-	-	-	-	-
	2/01	-	-	-	-	-	13	-	-	-	-	-	-	-
	5/01	-	-	-	-	-	12	-	-	-	-	-	-	-
	8/01	-	-	-	-	-	10	-	-	-	-	-	-	-
	11/01	-	-	-	-	-	11	-	-	-	-	-	-	-
	2/02	-	-	-	-	-	12	-	-	-	-	-	-	-
	5/02	-	-	-	-	-	8.5	-	-	-	-	-	-	-
	8/02	-	-	-	-	-	10	-	-	-	-	-	-	-
	11/02	-	-	-	-	-	7.5	-	-	-	-	-	-	-
	5/03	-	-	-	-	-	9.4	-	-	-	-	-	-	-
	11/03	-	-	-	-	-	7.4	-	-	-	-	-	-	-
	5/04	-	-	-	-	-	6.5	-	-	-	-	-	-	-
	11/04	-	-	-	-	-	6.1	-	-	-	-	-	-	-
	5/05	-	-	-	-	-	5.8	-	-	-	-	-	-	-
	11/05	-	-	-	-	-	5.3	-	-	-	-	-	-	-
	5/06	-	-	-	-	-	5.1	-	-	-	-	-	-	-
	11/06	-	-	-	-	-	4.4	-	-	-	-	-	-	-
	05/07	-	-	-	-	-	4	-	-	-	-	-	-	-
	11/07	-	-	-	-	-	4	-	-	-	-	-	-	-
	5/08	-(-)	-(-)	-(-)	-(-)	-(-)	3.5(3.5)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
	11/08	-	-	-	-	-	3.7	-	-	-	-	-	-	-
	5/09	-	-	-	-	-	3.2	-	-	-	-	-	-	-
	11/09	-	-	-	-	-	3.9	-	-	-	-	-	-	-
	5/10	-	-	-	-	-	3.8	-	-	-	-	-	-	-
	11/10	-	-	-	-	-	3.1	-	-	-	-	-	-	-
	5/11	-	-	-	-	-	3.2	-	-	-	-	-	-	-
	10/11	-	-	-	-	-	3.5	-	-	-	-	-	-	-
	5/12	-	-	-	-	-	3.4	-	-	-	-	-	-	-
	11/12	-	-	-	-	-	4.3	-	-	-	-	-	-	-
	5/13	-	-	-	-	-	3.7	-	-	-	-	-	-	-
	11/13	-	-	-	-	-	3.7	-	-	-	-	-	-	-
	5/14	-	-	-	-	-	3.7	-	-	-	-	-	-	-
	11/14	-	-	-	-	-	3.5	-	-	-	-	-	-	-
	5/15	-	-	-	-	-	3.4	-	-	-	-	-	-	-
	11/15	-	-	-	-	-	3.3J	-	-	-	-	-	-	-
	5/16	-	-	-	-	-	3.2	-	-	-	-	-	-	-
	10/16	-	-	-	-	-	3.3	-	-	-	-	-	-	-
	5/17	-	-	-	-	-	3.5	-	-	-	-	-	-	-
	11/17	-	-	-	-	-	3.6	-	-	-	-	-	-	-

J = estimated value

() *duplicate analysis*

1,2-DCE (total) was detected as cis-1,2-DCE during 3/93, 5/97, and 11/97 events

J values for Methylene Chloride, carbon disulfide, and acetone not listed

¹ Risk-level cleanup levels from Powell Road Landfill ROD, Table 21

²Chemical specific Applicable or Relevant and Appropriate Requirements, Powell Road Landfill ROD, Table 22.

³ Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pumping duplicate.

⁴ MW16A resampling because of inconsistent results in 5/96. 5/96 results for Vinyl Chloride and 1,2-DCE are suspect.

⁶ 10⁻⁴ Risk Level from USEPA Regional Screening Level (RSL) Tapwater

Supporting Table November 2017

- = no detections

Monitoring wells and residential wells not listed had no detections of VOCs

MCL for cis-1,2-DCE is 70; for trans-1,2-DCE is 100

[] = indicates values above MCL

TABLE M-1.
SUMMARY OF VOCs AND SVOCs IN WELLS WITH DETECTIONS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO
(concentrations in ug/L)

	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
	MCLs		2			100		70;100	5	200		5	5	10,000
	10^{-4} Risk ¹			4					25,000					46 ⁵
	ARARS ²			2					5				5	
ONSITE Primary Aquifer	MW-16B (cont'd)	2/01	-	-	-	-	-	-	-	-	-	-	-	-
		5/01	-	-	-	-	-	-	-	-	-	-	-	-
		8/01	-	-	-	-	-	-	-	-	-	-	-	-
		11/01	-	-	-	-	-	-	-	-	-	-	-	-
		2/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/02	-	-	-	-	-	-	-	-	-	-	-	-
		8/02	-	-	-	-	-	-	-	-	-	-	-	-
		11/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/03	-	-	-	-	-	-	-	-	-	-	-	-
		11/03	-	-	-	-	-	-	-	-	-	-	-	-
		5/04	-	-	-	-	-	-	-	-	-	-	-	-
		11/04	-	-	-	-	-	-	-	-	-	-	-	-
		5/05	-	-	-	-	-	-	-	-	-	-	-	-
		11/05	-	-	-	-	-	-	-	-	-	-	-	-
		5/06	-	-	-	-	-	-	-	-	-	-	-	-
		11/06	-	-	-	-	-	-	-	-	-	-	-	-
		05/07	-	-	-	-	-	-	-	-	-	-	-	-
		11/07	-	-	-	-	-	-	-	-	-	-	-	-
		5/08	-	-	-	-	-	-	-	-	-	-	-	-
		11/08	-	-	-	-	-	-	-	-	-	-	-	-
		5/09	-	-	-	-	-	-	-	-	-	-	-	-
		11/09	-	-	-	-	-	-	-	-	-	-	-	-
		5/10	-	-	-	-	-	-	-	-	-	-	-	-
		11/10	-	-	-	-	-	-	-	-	-	-	-	-
		5/11	-	-	-	-	-	-	-	-	-	-	-	-
		10/11	-	-	-	-	-	-	-	-	-	-	-	-
		5/12	-	-	-	-	-	-	-	-	-	-	-	-
		11/12	-	-	-	-	-	-	-	-	-	-	-	-
		5/13	-	-	-	-	-	-	-	-	-	-	-	-
		11/13	-	-	-	-	-	-	-	-	-	-	-	-
		5/14	-	-	-	-	-	-	-	-	-	-	-	-
		11/14	-	-	-	-	-	-	-	-	-	-	-	-
		5/15	-	-	-	-	-	-	-	-	-	-	-	-
		11/15	-	-	-	-	-	-	-	-	-	-	-	-
		5/16	-	-	-	-	-	-	-	-	-	-	-	-
		10/16	-	-	-	-	-	-	-	-	-	-	-	-
		5/17	-	-	-	-	-	-	-	-	-	-	-	-
		11/17	-	-	-	-	-	-	-	-	-	-	-	-
OFFSITE Primary Aquifer	MW13B	4/89	-	-	-	-	-	-	-	-	-	-	-	-
	Eldorado	1-2/91	-	-	-	-	-	-	5	[8]	-	-	-	-
	Plat	3/93	-	-	-	-	-	-	-	-	-	-	-	-
		2/95	-	-	-	-	-	-	-	-	-	-	-	-
		5/95	-	-	-	-	-	-	-	-	-	-	-	-
		7-8/95	-	-	-	-	-	-	-	-	-	-	-	-
		12/95	-	-	-	-	-	-	-	-	-	-	-	-
		5/96	-	-	-	-	-	-	-	-	-	-	-	-
		11/96	-	-	-	-	-	-	-	-	-	-	-	-
		5/97	-	-	-	-	-	-	-	-	-	-	-	0.71J
		11/97	-	-	-	-	-	-	-	-	-	-	-	-
		9/98	-	-	-	-	-	-	-	-	-	-	-	-
		5/99	-	-	-	-	-	-	-	-	-	-	-	-
		5/00	-	-	-	-	-	-	-	-	-	-	-	-
		8/00	-	-	-	-	-	-	-	-	-	-	-	-
		11/00	-	-	-	-	-	-	-	-	-	-	-	-
		2/01	-	-	-	-	-	-	-	-	-	-	-	-
		5/01	-	-	-	-	-	-	-	-	-	-	-	-
		8/01	-	-	-	-	-	-	-	-	-	-	-	-
		11/01	-	-	-	-	-	-	-	-	-	-	-	-
		2/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/02	-	-	-	-	-	-	-	-	-	-	-	-
		8/02	-	-	-	-	-	-	-	-	-	-	-	-
		11/02	-	-	-	-	-	-	-	-	-	-	-	-

J = estimated value

() = duplicate analysis

I,2-DCE (total) was detected as cis-I,2-DCE during 3/93, 5/97, and 11/97 events

J values for Methylene Chloride, carbon disulfide, and acetone not listed

¹ Risk-level cleanup levels from Powell Road Landfill ROD, Table 21

² Chemical specific Applicable or Relevant and Appropriate Requirements, Powell Road Landfill ROD, Table 22.

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⁶ 10^{-4} Risk Level from USEPA Regional Screening Level (RSL) Tapwater

Supporting Table November 2017

- = no detections

Monitoring wells and residential wells not listed had no detections of VOCs

MCL for cis-I,2-DCE is 70; for trans-I,2-DCE is 100

[] = indicates values above MCL

TABLE M-1.
SUMMARY OF VOCs AND SVOCS IN WELLS WITH DETECTIONS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO
(bconcentrations in ug/L)

Wells with Detections	Sampling Date	(Concentrations in ug/L)											
		Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
		MCLs	2			100		70;100	5	200	5	5	10,000
		10^{-4} Risk ¹		4					25,000				46 ⁶
OFFSITE Primary Aquifer	MW13B (cont'd)	ARARS ²	2						5			5	
		5/03	-	-	-	-	-	-	-	-	-	-	-
		11/03	-	-	-	-	-	-	-	-	-	-	-
		5/04	-	-	-	-	-	-	-	-	-	-	-
		11/04	-	-	-	-	-	-	-	-	-	-	-
		5/05	-	-	-	-	-	-	-	-	-	-	-
		11/05	-	-	-	-	-	-	-	-	-	-	-
		5/06	-	-	-	-	-	-	-	-	-	-	-
		11/06	-	-	-	-	-	-	-	-	-	-	-
		05/07	-	-	-	-	-	-	-	-	-	-	-
		11/07	-	-	-	-	-	-	-	-	-	-	-
		5/08	-	-	-	-	-	-	-	-	-	-	-
		11/08	-	-	-	-	-	-	-	-	-	-	-
		5/09	-	-	-	-	-	-	-	-	-	-	-
		11/09	-	-	-	-	-	-	-	-	-	-	-
		5/10	-	-	-	-	-	-	-	-	-	-	-
		11/10	-	-	-	-	-	-	-	-	-	-	-
		5/11	-	-	-	-	-	-	-	-	-	-	-
		10/11	-	-	-	-	-	-	-	-	-	-	-
		5/12	-	-	-	-	-	-	-	-	-	-	-
		11/12	-	-	-	-	-	-	-	-	-	-	-
		5/13	-	-	-	-	-	-	-	-	-	-	-
		11/13	-	-	-	-	-	-	-	-	-	-	-
		5/14	-	-	-	-	-	-	-	-	-	-	-
		11/14	-	-	-	-	-	-	-	-	-	-	-
		5/15	-	-	-	-	-	-	-	-	-	-	-
		11/15	-	-	-	-	-	-	-	-	-	-	-
		5/16	-	-	-	-	-	-	-	-	-	-	-
		10/16	-	-	-	-	-	-	-	-	-	-	-
		5/17	-	-	-	-	-	-	-	-	-	-	-
		11/17	-	-	-	-	-	-	-	-	-	-	-
MW15B Eldorado Plat	1-2/91 3/93 2/95 5/95 7-8/95 12/95 5/96 11/96 5/97 11/97 9/98 5/99 5/00 8/00 11/00 2/01 5/01 8/01 11/01 2/02 5/02 8/02 11/02 5/03 11/03 5/04 11/04 5/05 11/05 5/06	-	-	-	-	-	4 J (-)	[7] (-)	-	-	-	-	-
		1.4 (1.4)	-	-	-	-	5.0 (5.3)	[5.6 (5.8)]	-	-	-	-	-
		-	-	-	-	-	-	3J	-	-	-	-	-
		-	-	--	-	-	2J	3J	-	-	-	-	-
		-	-	-	-	-	-	4J	-	-	-	-	-
		-	-	-	-	-	1.8	4.5	-	-	-	-	-
		0.6J	-	-	-	-	-	3	4	-	-	-	-
		-	-	-	-	-	-	4	4.2	-	-	-	-
		-	-	-	-	-	2.7	4.3	-	-	-	-	-
		-	-	-	-	-	2.6J	3.7J	-	-	-	-	-
		-	-	-	-	-	2.8	3.5	-	-	-	-	-
		-	-	-	-	-	2.6	3.3	-	-	-	-	-
		-	-	-	-	-	-	2.1	-	-	-	-	-
		-	-	-	-	-	-	2.3	-	-	-	-	-
		-	-	-	-	-	-	2.1J	-	-	-	-	-
		-	-	-	-	-	-	-	2.0	-	-	-	-
		-	-	-	-	-	-	-	1.8	-	-	-	-
		-	-	-	-	-	-	-	2.0	-	-	-	-
		-	-	-	-	-	-	-	2.5	-	-	-	-
		-	-	-	-	-	-	-	1.8	-	-	-	-
		-	-	-	-	-	-	-	2.1	-	-	-	-
		-	-	-	-	-	-	-	2.3	-	-	-	-
		-	-	-	-	-	-	-	1.7	-	-	-	-

$J = \text{estimated value}$

() duplicate analysis

1,2-DCE (total) was detected as cis-1,2-DCE during 3/93, 5/97, and 11/97 events

J values for Methylene Chloride, carbon disulfide, and acetone not listed

¹ Risk-level cleanup levels from Powell Road Landfill ROD, Table 21

² Chemical specific Applicable or Relevant and Appropriate Requirements, Powell Road Landfill ROD, Table 22.

³ Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pumping duplicate.

4 MW16A resampling because of inconsistent results in 5/96. 5/96 results for Vinyl Chloride and 1,2-DCE are suspect.

⁶ 10⁻⁴ Risk Level from USEPA Regional Screening Level (RSL) Tapwater

Supporting Table November 2017

- = no detections

Monitoring wells and residential wells not listed had no detections of VOCs

MCL for Cis-1,2-DCE is 70; for trans-1,2-DCE is 100

[] = indicates values above MCL

TABLE M-1.
SUMMARY OF VOCs AND SVOCs IN WELLS WITH DETECTIONS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO
(concentrations in ug/L)

	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
	MCLs		2			100		70;100	5	200		5	5	10,000
	10^4 Risk ¹		4						25,000					46 ⁵
	ARARS ²		2						5			5		
OFFSITE Primary Aquifer	MW15B	11/06	-	-	-	-	-	-	1.6	-	-	-	-	-
	Eldorado	05/07	-	-	-	-	-	-	1.7	-	-	-	-	-
	Plat	11/07	-	-	-	-	-	-	1.4	-	-	-	-	-
	(cont'd)	5/08	-	-	-	-	-	-	1.5	-	-	-	-	-
		11/08	-	-	-	-	-	-	1.4	-	-	-	-	-
		5/09	-	-	-	-	-	-	1.2	-	-	-	-	-
		11/09	-	-	-	-	-	-	1.1	-	-	-	-	-
		5/10							1.6					
		11/10	-	-	-	-	-	-	1.3	-	-	-	-	-
		5/11							1.3	-				
		10/11	-	-	-	-	-	-	1.5	-	-	-	-	-
		5/12	-	-	-	-	-	-	1.3	-	-	-	-	-
		11/12	-	-	-	-	-	-	1.1	-	-	-	-	-
		5/13	-	-	-	-	-	-	1.3	-	-	-	-	-
		11/13	-	-	-	-	-	-	1.5	-	-	-	-	-
		5/14	-	-	-	-	-	-	1.5	-	-	-	-	-
		11/14	-	-	-	-	-	-	1.3	-	-	-	-	-
		5/15	-	-	-	-	-	-	1.1	-	-	-	-	-
		11/15	-	-	-	-	-	-	1.4	-	-	-	-	-
		5/16	-	-	-	-	-	-	1.0	-	-	-	-	-
		10/16	-	-	-	-	-	-	1.2	-	-	-	-	-
		5/17	-	-	-	-	-	-	1.4	-	-	-	-	-
		11/17	-	-	-	-	-	-	1.3	-	-	-	-	-
RESIDENTIAL	P862	12/88	-	-	-	-	-	-	-	-	-	-	-	-
	Eldorado	3/93	-	-	-	-	-	0.8 (0.8)	3.0 (2.6)	-	-	-	-	-
	Plat	4/93	-	-	-	-	-	1.0 (1.0)	2.9 (2.9)	-	-	-	-	-
		2/95	-	-	-	-	-	-	-	-	-	-	-	-
		5/95	-	-	-	-	-	-	-	-	-	-	-	-
		7-8/95	-	-	-	-	-	-	-	-	-	-	-	-
		12/95	-	-	-	-	-	-	-	-	-	-	-	-
		5/96	-	-	-	-	-	- (0.5J)	2 (1)	-	-	-	-	-
		11/96	-	-	-	-	-	1.3 (-)	1.2 (1.1)	2.5 (2.6)	-	-	-	-
		5/97	-	-	-	-	-	-	-	2.6	-	-	-	-
		11/97	-	-	-	-	-	-	1.4	3.2	-	-	-	-

J = estimated value

() duplicate analysis

1,2-DCE (total) was detected as cis-1,2-DCE during 3/93, 5/97, and 11/97 events

J values for Methylene Chloride, carbon disulfide, and acetone not listed

¹ Risk-level cleanup levels from Powell Road Landfill ROD, Table 21

² Chemical specific Applicable or Relevant and Appropriate Requirements, Powell Road Landfill ROD, Table 22.

³ Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pumping duplicate.

⁴ MW16A resampling because of inconsistent results in 5/96. 5/96 results for Vinyl Chloride and 1,2-DCE are suspect.

⁶ 10^4 Risk Level from USEPA Regional Screening Level (RSL) Tapwater

Supporting Table November 2017

- = no detections

Monitoring wells and residential wells not listed had no detections of VOCs

MCL for Cis-1,2-DCE is 70; for trans-1,2-DCE is 100

[] = indicates values above MCL

TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW01A			MW01B			MW02A				
						2/95	5/95	7-8/95	2/95	5/95	7-8/95	11/96	2/95	5/95	7-8/95	7-8/95 Dup.
Aluminum, total	ug/L															
Antimony, total	ug/L	6														
Arsenic, total	ug/L	50/10 ⁴		4	50											
Barium, total	ug/L	2000														
Beryllium, total	ug/L	4														
Cadmium, total	ug/L	5														
Calcium, total	ug/L															
Chromium, total	ug/L	100														
Cobalt, total	ug/L															
Copper, total	ug/L	**	1000													
Iron, total	ug/L		300													
Iron, Ferrous	ug/L															
Lead, total	ug/L	**														
Magnesium, total	ug/L															
Manganese, total	ug/L		50													
Mercury, total	ug/L	2														
Nickel, total	ug/L															
Potassium, total	ug/L															
Selenium, total	ug/L	50														
Silver, total	ug/L															
Sodium, total	ug/L															
Strontium	ug/L															
Thallium, total	ug/L	2														
Vanadium, total	ug/L															
Zinc, total	ug/L		5000													

Note: Blank spaces represent non-detect values.

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* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L.

The current MCL is 4 ug/L.

** Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW02AR															
							5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴		4	50		5.7	14	5.4	2.1	1.2	2.2	1.5	--	--	1.7	1.5	--	1.4	--	1.0	--
Barium, total	ug/L	2000					350	--	230	--	170	--	160	--	140	--	120	130	140	130	110	120
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L						231000	218000	199000	108000	186000	188000	180000	182000	180000	175000	161000	209000J	224000	217000	188000	201000
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron, total	ug/L		300				4100	7900	1500	4100	350	1600	900	310	140	1900	420	82J	120J	200	670	50
Iron, Ferrous	ug/L						--	--	--	--	--	--	--	--	--	--	30	190	40	60	10	
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Magnesium, total	ug/L						33800	30300	28800	34000	33100	32200	32400	34600	35800	30200	29400	38600	36800	36100	35400	40100
Manganese, total	ug/L		50				--	--	550	--	330	--	410	--	75	--	360	680	530	510	320	44
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium, total	ug/L						3400	3300	2500	2400	2000	2000	1700	1600	1600	1800	1800	2700	2000	1700	1900	1800
Selenium, total	ug/L	50		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Silver, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L						11900	14200J	17200	20500	17500	16900	16500	15300	12600	13100	13700	16600	12500	10100	10100	10700
Strontium	ug/L						--	--	1100J	--	930	--	990J	--	1100	--	950	980	1100J	1200	1100	1100
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

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** Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW02AR (cont'd)																	
							11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13		
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Arsenic, total	ug/L	50/10 ⁴			4	50				2.0														
Barium, total	ug/L	2000					110	100	100	97	84	88	82	104	123	131	166	100	120	100	140	130		
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Calcium, total	ug/L						194000	203000	164000	164000	140000	151000	153000	170000	171000	189000	189000	155000	169000	174000	173000	183000		
Chromium, total	ug/L	100																						
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Copper, total	ug/L	**	1000																					
Iron, total	ug/L		300				220	150	2000	140	140	220		124	371	124	335	210			150	54		
Iron, Ferrous	ug/L						100		80	--	100	10		10	150		190	60	140		90	120		
Lead, total	ug/L	**																						
Magnesium, total	ug/L						40300	44400	35400	33600J+	30200	31100	31600	37200	39500	40000	44000	28900	35500	35300	39200	39700		
Manganese, total	ug/L		50					47	260	310	100	82	31	85	170	275	201	398	16	190	250	320	65	
Mercury, total	ug/L	2																						
Nickel, total	ug/L																							
Potassium, total	ug/L																							
Selenium, total	ug/L	50		100																				
Silver, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Sodium, total	ug/L							14000	10400	14400	8000	13000	9600	9800	14500	17000	18600	19300	10000	14300	11300	19100J-	14400	
Strontium	ug/L							1100	860	760	960	790	830	950	933	934	800	887	740	870	1200	840	1200	
Thallium, total	ug/L	2																						
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Zinc, total	ug/L		5000																					

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW02AR (cont'd)								
						11/13	5/14	11/14	5/15	11/15	5/16	10/16	5/17	10/17
Aluminum, total	ug/L					--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6				--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴		4	50	1.3							1.7	
Barium, total	ug/L	2000				140	100	120	160	150	170	200	230	280
Beryllium, total	ug/L	4				--	--	--	--	--	--		--	
Cadmium, total	ug/L	5				--	--	--	--	--	--		--	
Calcium, total	ug/L					164000	156000	173000	202000	177000	192000	186000	168000	187000
Chromium, total	ug/L	100												
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000											
Iron, total	ug/L		300											
Iron, Ferrous	ug/L													
Lead, total	ug/L	**												
Magnesium, total	ug/L					39100	33400	37800	42400	36700	38500	40600	38700	39900
Manganese, total	ug/L					290	51	360	210	300	170	460	410	580
Mercury, total	ug/L	2												
Nickel, total	ug/L					2300	2200	2800	2600	3200	2800	3300	3500	4100
Potassium, total	ug/L													
Selenium, total	ug/L	50												
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					18800	12900	15700	15400	19500	13600	17700	30700	29100
Strontium	ug/L					850	670	970	1100	830	1100	990	920	1100
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L													
Zinc, total	ug/L		5000											

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW02B																
							5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05	
Aluminum, total	ug/L						700	--	1700	--	160	--	1300	--	160	--		310	120	1600	900	--	
Antimony, total	ug/L	6					--	--	--		--	--	--	--	--	--		--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴			4	50	2.7	2.8	2.8	1.9	1.9	1.8	2.6	1.6			2.1	1.6	2.1	1.3	1.7	1.3	
Barium, total	ug/L	2000					190	--	200	--	160	--	190	--	170	--	170	170	180	200	190	160	
Beryllium, total	ug/L	4					--	--	--		--	--	--	--	--	--		--	--	--	--	--	
Cadmium, total	ug/L	5					--	--	--		--	--	--	--	--	--		--	--	--	--	--	
Calcium, total	ug/L						104000	102000	111000	102000	101000	105000	114000	104000	95500	91200	102000	109000J	102000	106000	103000	90700	
Chromium, total	ug/L	100					--	--	--		--	--	--	--	--	--		--	--	--	--	--	
Cobalt, total	ug/L						--	--	--		--	--	--	--	--	--		--	--	--	--	--	
Copper, total	ug/L	**	1000				--	--	--		--	--	--	--	--	--		--	--	--	--	--	
Iron, total	ug/L		300				4300	4900	5300	3900	3800	4000	5300	3800	3600	3200	3600	4100J	3600J	4900	4300	3100	
Iron, Ferrous	ug/L						--	--	--		--	--	--	--	--	2160	2780	2010	1810	2940	1970	2830	2040
Lead, total	ug/L	**					--	--	--		--	--	--	--	--	--		--	--	--	--	--	
Magnesium, total	ug/L						32000	32600	34900	32200	32100	33500	36300	33000	29900	29300	32800	34600	32100	33200	32200	27400	
Manganese, total	ug/L		50				--	--	150	--	120	--	150	--	120	--	130	130	120	140	140	110	
Mercury, total	ug/L	2					--	--	--		--	--	--	--	--	--		--	--	--	--	--	
Nickel, total	ug/L						--	--	--		--	--	--	--	--	--		--	--	--	--	--	
Potassium, total	ug/L						2800	3000	2900	2400	2300	2600	2700	2300	2200	2500	2400	2300	2400	3000	2700	2400	
Selenium, total	ug/L	50					--	--	--		--	--	--	--	--	--		--	--	--	--	--	
Silver, total	ug/L		100				--	--	--		--	--	--	--	--	--		--	--	--	--	--	
Sodium, total	ug/L						20900	18800J	19000	19600	17900	19700	20200	19800	20300	24100	20800	18200	21700	21100	21800	19400	
Strontium	ug/L						--	--	210J	--	180	--	190J	--	210	--	200	200	180J	140	210	180	
Thallium, total	ug/L	2					--	--	--		--	--	--	--	--	--		--	--	--	--	--	
Vanadium, total	ug/L						--	--	--		--	--	--	--	--	--		--	--	--	--	--	
Zinc, total	ug/L		5000				--	--	--		--	--	--	--	--	--		--	--	--	--	--	

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW02B (cont'd)																
							11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13	
Aluminum, total	ug/L	50-200					110	1900	1100	1800	180	800	550	256	1020	344	388	3900	970	290	2900	1100	
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴					4	50	1.2	1.4	1.2					1.0				1.0	1.4	1.1	
Barium, total	ug/L	2000							180	190	190	180	170	170	170	178	175	168	174	200	190	180	
Beryllium, total	ug/L	4					2																
Cadmium, total	ug/L	5																					
Calcium, total	ug/L																						
Chromium, total	ug/L	100																					
Cobalt, total	ug/L																						
Copper, total	ug/L	**	1000																				
Iron, total	ug/L		300																				
Iron, Ferrous	ug/L																						
Lead, total	ug/L	**																					
Magnesium, total	ug/L																						
Manganese, total	ug/L		50																				
Mercury, total	ug/L	2																					
Nickel, total	ug/L																						
Potassium, total	ug/L																						
Selenium, total	ug/L	50																					
Silver, total	ug/L		100																				
Sodium, total	ug/L																						
Strontium	ug/L																						
Thallium, total	ug/L	2																					
Vanadium, total	ug/L																						
Zinc, total	ug/L		5000																				

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW02B (cont'd)								
							11/13	5/14	11/14	5/15	11/15	5/16	10/16	5/17	10/17
Aluminum, total	ug/L		50-200				360	660	100	2000	430	250	200		100
Antimony, total	ug/L	6			10/5		--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴			4	50	1.5			1.1					
Barium, total	ug/L	2000					190	170	180	190	190	180	180	180	180
Beryllium, total	ug/L	4			2	1*	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--
Calcium, total	ug/L						98100	82100	88600	89100	91900	92600	92300	93000	95200
Chromium, total	ug/L	100													
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000												
Iron, total	ug/L		300				3600	3200	3000	4800	3300	3200	3100	3200	3300
Iron, Ferrous	ug/L						1670	2070	2690	2490	3240	2900	2970	2690	3200
Lead, total	ug/L	**													
Magnesium, total	ug/L						30600	26200	28200	28800	29000	28700	29200	29800	29900
Manganese, total	ug/L		50				120	110	120	130	120	120	110	120	120
Mercury, total	ug/L	2				2									
Nickel, total	ug/L														
Potassium, total	ug/L						2200	2400	2400	2700	2600	2400	2400	2300	2400
Selenium, total	ug/L	50													
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--
Sodium, total	ug/L						31300	24800	26700	23700	26400	24100	24200	24500	24900
Strontium	ug/L						210	190	250	240	240	240	260	250	280
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L														
Zinc, total	ug/L		5000												

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The current MCL is 4 ug/L.

** Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW03A			MW04A										
							2/95	5/95	7-8/95	2/95	5/95	7-8/95	12/95	5/96	11/96	5/97	11/97	9/98	5/99	5/99 Dup.
Aluminum, total	ug/L	50-200																	--	
Antimony, total	ug/L	6																	--	
Arsenic, total	ug/L	50/10 ⁴			4	50													--	
Barium, total	ug/L	2000					356.0	305	297	588.0	[71]	[57.4]	[84.9]	[91.4]	[84.3]	[70.9]	[82.9]	[64.3]	[89.9]	[78.2]
Beryllium, total	ug/L	4																	--	
Cadmium, total	ug/L	5																	--	
Calcium, total	ug/L						169000	181000	170000	143000	159000	181000	--	--	--	--	--	170000	168000	
Chromium, total	ug/L	100																	--	
Cobalt, total	ug/L																		--	
Copper, total	ug/L	**	1000																--	
Iron, total	ug/L		300				19300	8440	9130	13100	11800	11300	--	--	--	--	--	15900	15700	
Iron, Ferrous	ug/L						--	--	--	--	--	--	--	--	--	--	--		--	
Lead, total	ug/L	**																	--	
Magnesium, total	ug/L						43300	38500	36000	47000	46200	50100	--	--	--	--	--	43700	43500	
Manganese, total	ug/L		50				214.0	190	187	252.0	394	312	--	--	--	--	--	137	135	
Mercury, total	ug/L	2																	--	
Nickel, total	ug/L																		--	
Potassium, total	ug/L						10200	7990	9440	18400	17200	18200	--	--	--	--	--	11400	11300	
Selenium, total	ug/L	50		100															--	
Silver, total	ug/L						47100	36100	40800	43800	45800	44300	--	--	--	--	--		--	
Sodium, total	ug/L						--	--	--	--	--	--	--	--	--	--	43400	43700		
Strontium	ug/L		2																--	
Thallium, total	ug/L																		--	
Vanadium, total	ug/L																		--	
Zinc, total	ug/L		5000																--	

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW04AR															
							5/00	8/00	11/00	11/00 Dup.	2/01	5/01	5/01 Dup.	8/01	8/01 Dup.	11/01	2/02	5/02	5/02 Dup.	8/02	11/02	5/03
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴			4	50	[74]	[76]	[98]	[95]	[61]	[50]	44	49	[51]	47	48	[42]	[44]	[47]	[49]	[36]
Barium, total	ug/L	2000					650	--	680	680	--	530	520	--	--	530	--	410	420	--	640	360
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L						142000	148000	152000	152000	131000	129000	126000	154000	155000	143000	137000	150000	154000	137000	135000	148000J
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron, total	ug/L		300				13600	15300	15800	15800	10800	10400	10100	11000	11200	10800	10600	9200	9600	10300	11600	12400J
Iron, Ferrous	ug/L						--	--	--	--	--	--	--	--	--	--	--	10440	--	6160	1480	1770
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Magnesium, total	ug/L						48000	49200	52100	52200	40100	41100	40100	47500	48200	45500	42900	44000	45200	47100	48800	49100
Manganese, total	ug/L		50				--	--	160	160	--	170	160	--	--	190	--	210	220	--	190	110
Mercury, total	ug/L	2					150	--	160	160	--	--	--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium, total	ug/L						22400	24300	23700	23800	14800	20000	19600	27300	27800	22600	20800	20200	20600	30800	29700	15100
Selenium, total	ug/L	50		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Silver, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L						87700	100000J	113000	114000	60600	72600	71400	100000	102000	76500	69400	65500	67600	95100	87900	55400
Strontium	ug/L						--	--	1300J	1200J	--	1100	1100	--	--	1300J	--	1300	1200	--	1100	850
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW04AR (cont'd)															
							11/03	5/04	11/04	11/04 Dup.	3/05	5/05	11/05	11/05 Dup.	5/06	5/06 Dup.	11/06	11/06 Dup.	5/07	11/07	11/07 Dup.	5/08
Aluminum, total	ug/L	50-200					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6					[59]	[60]	[99]	[90]	[50]	[130]	[48]	[51]	[66]	[59]	[46]	[49]	[38]	[48]	[50]	[17]
Arsenic, total	ug/L	50/10 ⁴					570	350	640	650	--	470	580	590	420	410	530	530	310	630	640	360
Barium, total	ug/L	2000																				
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5																				
Calcium, total	ug/L						156000	182000	130000	129000	--	187000	167000	171000	154000	154000	156000	155000	149000	124000	125000	165000
Chromium, total	ug/L	100																				
Cobalt, total	ug/L																					
Copper, total	ug/L	**	1000																			
Iron, total	ug/L		300																			
Iron, Ferrous	ug/L																					
Lead, total	ug/L	**																				
Magnesium, total	ug/L																					
Manganese, total	ug/L		50																			
Mercury, total	ug/L	2																				
Nickel, total	ug/L																					
Potassium, total	ug/L																					
Selenium, total	ug/L	50																				
Silver, total	ug/L		100																			
Sodium, total	ug/L																					
Strontium	ug/L																					
Thallium, total	ug/L	2																				
Vanadium, total	ug/L																					
Zinc, total	ug/L		5000																			

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW04AR (cont'd)																
							11/08	11/08 Dup.	5/09	5/09 Dup.	11/09	11/09 Dup.	5/10	5/10 Dup.	11/10	11/10 Dup.	5/11	5/11 Dup.	10/11	10/11 Dup.	5/12	5/12 Dup.	
Aluminum, total	ug/L	50-200					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Antimony, total	ug/L	6					[42]	[44]	[19.4]	[19.4]	[24.3]	[24.5]	[23.2]	[24.2]	[35.3]	[34.5]	[12.0]J+	[11.0]J+	[17]	[16]	[26]	[24]	
Arsenic, total	ug/L	50/10 ⁴					50	730	700	493	486	343	352	322	327	610	622	200	210	320	320	430	430
Barium, total	ug/L	2000					2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L						143000	136000	160000	15800	167000	171000	136000	137000	136000	114000	116000	150000	148000	140000	139000		
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron, total	ug/L		300				11000	10500	6430	6310	6480	6650	6610	6770	10700	10900	2700	2800	4500	4600	9900	9900	
Iron, Ferrous	ug/L						1290	--	2030	--	1270	--	1660	--	710	--	1610	--	2660	--	5940	--	
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Magnesium, total	ug/L						50400	48300	46500	45900	48900	50300	39000	39400	46600	46600	30200	30400	42200	42300	42900	42900	
Manganese, total	ug/L		50				150	150	203	201	306	314	295	296	136	134	280	280	200	200	200	200	
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium, total	ug/L						21100	20100	12200	12000	10400	10700	8850	8940	16000	16400	4600	4700	8000	7900	11100	11100	
Selenium, total	ug/L	50		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Silver, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L						75900	72600	31700	31300	20500	20900	30900	31000	50700	50700	14900	15200	42600	42200	61800	61700	
Strontium	ug/L						970	1000	946	951	1030	1040	661	671	926	892	790	790	760	970	970	950	
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW04AR (cont'd)																		
							11/12	11/12 Dup.	5/13	5/13 Dup.	11/13	11/13 Dup.	5/14	11/14	11/14 Dup.	5/15	11/15	11/15 Dup.	5/16	10/16	5/17	11/17	11/17 Dup.		
Aluminum, total	ug/L	50-200					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Antimony, total	ug/L	6					[21]	[20]	8.4	8.6	[17]	[17]	[16]	[25]	[24]	[14]	[25]	[24]	[15]	[18]	[14]	[16]	[16]		
Arsenic, total	ug/L	50/10 ⁴					4	50	460	460	390	390	370	370	420	440	430	450	450	440	510	370	560	370	
Barium, total	ug/L	2000					2																		
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Calcium, total	ug/L						151000	150000	146000	145000	169000	164000	127000	129000	123000	146000	133000	131000	157000	141000	151000	132000	133000		
Chromium, total	ug/L	100																							
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Copper, total	ug/L	**	1000																						
Iron, total	ug/L		300						7300	7200	4800	4700	5800	5700	7900	9400	8900	7800	9000	8900	9800	8200	11200	8900	
Iron, Ferrous	ug/L								6100	--	2320	2450	2260	--	1260	3010	--	5800	8280	--	7840	6680	2520	5320	--
Lead, total	ug/L	**																							
Magnesium, total	ug/L																								
Manganese, total	ug/L		50																						
Mercury, total	ug/L	2																							
Nickel, total	ug/L																								
Potassium, total	ug/L																								
Selenium, total	ug/L	50																							
Silver, total	ug/L		100																						
Sodium, total	ug/L																								
Strontium	ug/L																								
Thallium, total	ug/L	2																							
Vanadium, total	ug/L																								
Zinc, total	ug/L		5000																						

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW04BR											
							2/95	5/95	7-8/95	12/95	5/96	11/96	5/97	11/97	Dup.	9/98	5/99	5/99 Dup.
Aluminum, total	ug/L		50-200				--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6			10/5		--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴			4	50	13.0	17.6	15.8	14.7	15.4	12.6	9.8	10.1	13.6	11.0	11.8	10.4
Barium, total	ug/L	2000					270.0	276	310	--	--	--	--	--	--	--	--	--
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5					94500	95300	109000	--	--	--	--	--	--	90200	92100	
Calcium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300				1640	1690	1870	--	--	--	--	--	--	--	1530	1540
Iron, Ferrous	ug/L						--	--	--	--	--	--	--	--	--	--	--	--
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L						35700	35700	40100	--	--	--	--	--	--	35700	36900	
Manganese, total	ug/L		50				40.6	41.7	47.9	--	--	--	--	--	--	--	36.1	37.6
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L						3930	3810	4450	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L						20700	21700	24100	--	--	--	--	--	--	--	24500	25400
Strontium	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--
Thallium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW04BRR																	
							5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05		
Aluminum, total	ug/L	50-200					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	120		
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Arsenic, total	ug/L	50/10 ⁴					10.0	9.6	13.0	14.0	11.0	11.0	9.8	11.0	[11.0]	9.5	10.0	[11.0]	[11.0]	[11.0]	[14.0]	[13.0]		
Barium, total	ug/L	2000					260	--	250	--	250	--	260	--	260	--	250	240	260	270	260	240		
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cadmium, total	ug/L	5					85200	80700	90600	89200	88900	91500	89500	88600	87700	86600	87700	83000J	88900	93400	87100	83900		
Calcium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	64							
Iron, total	ug/L		300				1500	1300	1400	1500	1400	1500	1500	1400	1400	1400	1400	1300J	1400J	1500	1400	1300		
Iron, Ferrous	ug/L						--	--	--	--	--	--	--	--	--	--	1170	1430	1380	1240	1370	1470	1510	1330
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--							
Magnesium, total	ug/L						33700	31000	35400	35100	34500	35900	35500	35400	35000	35400	35000	32200	34900	36200	33200	31600		
Manganese, total	ug/L		50				--	34	--	35	--	34	--	35	--	34	--	34	32	35	36	33	31	
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Potassium, total	ug/L						3100	3100	3000	3000	3100	3200	2700	3000	3100	3000	3000	3300	3400	3200	3000	3000		
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Sodium, total	ug/L						26000	23400J	24500	24600	22300	23800	24200	24900	25800	26700	26800	30500	31100	30900	28400	26200		
Strontium	ug/L						--	430	--	520J	--	430	--	440J	--	470	--	470	460	470J	870	510	470	
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	36						
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10 ⁻⁴ Risk ¹	ARARS ²	MW04BRR (cont'd)															
						11/05	5/06	11/06	5/07	11/07	5/08	5/08 DUP	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12
Aluminum, total	ug/L	50-200				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6		10/5		[11]	10.0	[11]	10.0	9.8	[11]	[11]	10.0	10.0	[11.1]	[10.8]	[10.3]	10.0	[12]	[11]	[11]
Arsenic, total	ug/L	50/10 ⁴		4	50	260	240	260	240	230	230	230	240	239	268	284	301	270	280	250	260
Barium, total	ug/L	2000				2															
Beryllium, total	ug/L	4			1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5																			
Calcium, total	ug/L					92500	86400	91200	82000	83500	83900	83700	87200	89200	102000	106000	112000	101000	107000	91300	96900
Chromium, total	ug/L	100																			
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000																		
Iron, total	ug/L		300			1500	1400	1600	1200	1300	1500	1500	1400	1400	1660	1680	1910	1700	1800	1600	1700
Iron, Ferrous	ug/L					1440	1360	1460	1250	1270	1230		1310	1430	840	880	790	1480	660	1670	1620
Lead, total	ug/L	**																			
Magnesium, total	ug/L					35300	33300	36600	31500J+	31400	31500	31200	33400	34100	39800	40800	44500	42500	42300	35800	38500
Manganese, total	ug/L		50																		
Mercury, total	ug/L	2																			
Nickel, total	ug/L																				
Potassium, total	ug/L																				
Selenium, total	ug/L	50																			
Silver, total	ug/L		100																		
Sodium, total	ug/L					29600	26400	27000	25400	26700	27000	27200	29500	27600	26300	26800	28900	28700	28500	28900	31600
Strontium	ug/L					510	390	480	510	460	470	470	480	493	584	499	553	640	610	550	530
Thallium, total	ug/L	2																			
Vanadium, total	ug/L																				
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW04BRR (cont'd)									
							5/13	11/13	5/14	11/14	5/15	11/15	5/16	10/16	5/17	11/17
Aluminum, total	ug/L		50-200				--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5		--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴			4	50	[11]	[11]	[11]	[11]	[12]	[11]	[11]	[11]	[11]	[12]
Barium, total	ug/L	2000					290	280	270	270	260	270	270	290	300	320
Beryllium, total	ug/L	4			2	1*	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L						102000	108000	95000	102000	101000	103000	106000	113000	113000	124000
Chromium, total	ug/L	100														
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000													
Iron, total	ug/L		300				2000	2000	1900	2000	1900	1900	2100	2100	2100	2400
Iron, Ferrous	ug/L						1870	1770	1680	2030	1760	1720	2000	2190	2040	2430
Lead, total	ug/L	**														
Magnesium, total	ug/L						39800	38700	37200	37800	35800	36600	36700	39800	41300	46100
Manganese, total	ug/L		50				35	35	34	35	33	35	35	35	35	34
Mercury, total	ug/L	2														
Nickel, total	ug/L															
Potassium, total	ug/L						3400	3300	3100	3300	3100	3400	3300	3400	3700	3700
Selenium, total	ug/L	50														
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L						35100	31800	31100	32400	32000	37100	34300	38000	38300	35300
Strontium	ug/L						680	530	450	550	520	490	520	650	620	770
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L															
Zinc, total	ug/L		5000													

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW05A									
							2/95	2/95 Dup.	5/95	7-8/95	5/96	11/96	5/97	11/97	9/98	5/99
Aluminum, total	ug/L		50-200				--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6			10/5		--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴			4	50			11.1	5.8	6.6		11.0		23.3	20.2
Barium, total	ug/L	2000					229.0	233.0	214	231	--	--	--	--	--	
Beryllium, total	ug/L	4									--	--	--	--	--	
Cadmium, total	ug/L	5									--	--	--	--	--	
Calcium, total	ug/L						102000	103000	100000	111000	--	--	--	--	120000	
Chromium, total	ug/L	100								3.7	--	--	--	--	--	
Cobalt, total	ug/L										--	--	--	--	--	
Copper, total	ug/L	**	1000								--	--	--	--	--	
Iron, total	ug/L		300				2560.0	2480.0	9260	3690	--	--	--	--	4110	
Iron, Ferrous	ug/L						--	--	--	--	--	--	--	--	--	
Lead, total	ug/L	**									--	--	--	--	--	
Magnesium, total	ug/L						36200	36800	34600	40100	--	--	--	--	38000	
Manganese, total	ug/L		50				220.0	226.0	124	182	--	--	--	--	563	
Mercury, total	ug/L	2									--	--	--	--	--	
Nickel, total	ug/L										--	--	--	--	--	
Potassium, total	ug/L						3460	3460	3060	3750	--	--	--	--	4100	
Selenium, total	ug/L	50									--	--	--	--	--	
Silver, total	ug/L		100							2.4	--	--	--	--	--	
Sodium, total	ug/L						37700	38100	58100	52200	--	--	--	--	41100	
Strontium	ug/L						--	--	--	--	--	--	--	--	--	
Thallium, total	ug/L	2									--	--	--	--	--	
Vanadium, total	ug/L										--	--	--	--	--	
Zinc, total	ug/L		5000								--	--	--	--	--	

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HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW05AR																
							5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05	
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴			4	50	2.6	3.0	4.3	2.4	1.3	2.0	1.8	2.9	2.8	7.2	3.3	1.6	3.6	9.2	5.1	1.8	
Barium, total	ug/L	2000					250	--	260	--	210	--	200	--	190	--	210	220	180	200	200	180	
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L						100000	94800	109000	99700	107000	107000	110000	103000	104000	101000	110000	130000J	101000	104000	110000	118000	
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron, total	ug/L		300				2300	2200	3400	2500	380	2000	2600	1600	1500	5000	3100	2300J	2700J	9100	3400	710	
Iron, Ferrous	ug/L						--	--	--	--	--	--	--	--	--	920	1560	1460	1010	2000	2290	2320	480
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Magnesium, total	ug/L						34400	33800	38600	33200	31300	38000	38300	32200	36000	38200	38500	37900	38800	39500	40400	39000	
Manganese, total	ug/L		50				--	--	280	--	320	--	300	--	320	--	240	600	200	220	230	300	
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium, total	ug/L						5400	5000	5300	5500	5400	4700	3600	4200	4200	4100	4500	5000	5000	6300	5200	6200	
Selenium, total	ug/L	50		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Silver, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L						45800	68600J	62700	49500	49600	73400	55000	42600	47100	46700	43300	47400	59300	46800	52600	43800	
Strontium	ug/L						--	--	790J	--	660	--	720J	--	880	--	720	780	670J	560	860	780	
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

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HUBER HEIGHTS, OHIO

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							11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13	
Aluminum, total	ug/L	50-200					--	--	--	--	--	--	--	--	--	--	--	220	--	--	--	--	
Antimony, total	ug/L	6		10/5			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴		4	50		1.8		1.6	1.9	3.1	1.2	2.1		1.0		1.0		3.3		1..3	1.0	
Barium, total	ug/L	2000					170	170	160	260	200	190	160	174	187	149	179	200	140	130	160	130	
Beryllium, total	ug/L	4			2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L						116000	105000	108000	139000	106000	118000	90100	113000	112000	99600	108000	131000	85000	83000	97100	102000	
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron, total	ug/L		300				660	730	1000	1300	3000	350	1600	349	664	218	601	210	2500	140	1200	400	
Iron, Ferrous	ug/L						220	490	510	--	990	50	590		340	40	240	20	290		20		
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Magnesium, total	ug/L						35600	34200	35800	48200	37600	37600	36100	35200	36400	32700	35900	38300	34100	33500	34900	31300	
Manganese, total	ug/L		50				--	--	--	--	--	--	--	--	--	--	--	--	--	160	250	82	
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium, total	ug/L						5500	5000	4200	6800	6000	4700	4500	5000	5290	3990	4660	4500	3000	3100	4000	4000	
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L						38900	52200	45300	53500	45700	41800	44300	48500	51500	58600	63000	63700	57700	51700	48300	45900	
Strontium	ug/L						--	880	570	680	1100	720	840	650	777	750	532	620	770	480	550	600	640
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

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The current MCL is 4 ug/L.

** Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW05AR (cont'd)								
						11/13	5/14	11/14	5/15	11/15	5/16	10/16	5/17	11/17
Aluminum, total	ug/L		50-200					140	370					
Antimony, total	ug/L	6				--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴		4	50			1.4	2.1	3.7		1.5		1.1
Barium, total	ug/L	2000				150	210	170	170	150	170	160	150	160
Beryllium, total	ug/L	4				--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					91500	130000	86800	109000	95500	116000	90400	107000	96000
Chromium, total	ug/L	100												
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000											
Iron, total	ug/L		300			100	550	1000	2100	100	97	750	190	630
Iron, Ferrous	ug/L					90	30	180	140	360	40	130	110	350
Lead, total	ug/L	**												
Magnesium, total	ug/L					32300	51000	39500	34900	33500	34800	32700	28700	32400
Manganese, total	ug/L		50			190	410	260	320	220	650	250	190	280
Mercury, total	ug/L	2												
Nickel, total	ug/L					3400	6400	4700	5200	4000	4500	4200	5300	3900
Potassium, total	ug/L													
Selenium, total	ug/L	50												
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					65900	63900	60900	61000	64000	57700	51900	45400	56400
Strontium	ug/L					530	650	490	620	510	660	570	590	570
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L													
Zinc, total	ug/L		5000											

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW05BR																
							5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05	
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Arsenic, total	ug/L	50/10 ⁴			4	50																	
Barium, total	ug/L	2000					220	--	150	--	170	--	160	--	180	--	170	170	180	180	180	210	
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Calcium, total	ug/L						98000	61000	78500	72900	82800	76700	81200	82200	85800	81900	84800	85300J	90100	90200	82800	102000	
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Iron, total	ug/L		300				--	--	--	--	--	--	--	--	--	--	--	UJ	--	50	20	10	
Iron, Ferrous	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Magnesium, total	ug/L						39400	23800	31900	29000	32300	30700	33800	34300	36000	35300	35700	34700	36400	35400	33300	39000	
Manganese, total	ug/L		50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Potassium, total	ug/L						3100	2500	2200	2400	2800	2800	2100	2800	2800	2500	2400	2700	2600	2800	2400	2900	
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Sodium, total	ug/L						63800	73700 J	48400	44400	60900	76400	48300	44300	45200	44400	41800	54200	47300	51300	48800	49400	
Strontium	ug/L						--	1100	--	810J	--	780	--	770J	--	950	--	910	830	890J	850	1000	1100
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW05BR (cont'd)																
						11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13	
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴		4	50																	
Barium, total	ug/L	2000				160	180	160	160	160	170	170	180	143	173	150	180	150	180	160	170	
Beryllium, total	ug/L	4				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L					82700	85000	80500	79400	83200	85500	86300	86300	74000	84400	75300	81300	76900	82500	79500	79700	
Chromium, total	ug/L	100																				
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000																			
Iron, total	ug/L		300																			
Iron, Ferrous	ug/L					30	20	20	--	30	20											
Lead, total	ug/L	**																				
Magnesium, total	ug/L					33200	34100	34300	32300J+	33200	32600	34600	33400	29700	33600	32000	36100	32700	34600	34000	32300	
Manganese, total	ug/L		50																			
Mercury, total	ug/L	2																				
Nickel, total	ug/L																					
Potassium, total	ug/L					2300	2600	2000	2200	2200	2300	2300	2680	2140	2550	2320	2800	2100	2400	2200	2600	
Selenium, total	ug/L	50																				
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					51800	50600	46200	33800	43500	42600	44700	81000	55400	63400	56800	70500	49400	49700	50800	69900	
Strontium	ug/L					980	740	760	980	870	1100	970	1010	877	709	648	780	590	850	760	850	
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L																					
Zinc, total	ug/L		5000																			

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW05BR (cont'd)								
						11/13	5/14	11/14	5/15	11/15	5/16	10/16	5/17	11/17
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴		4	50									
Barium, total	ug/L	2000				150	180	170	170	140	170	160	170	160
Beryllium, total	ug/L	4			2	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					74900	81000	78700	82700	72600	82200	77100	82100	78100
Chromium, total	ug/L	100												
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000											
Iron, total	ug/L		300											
Iron, Ferrous	ug/L					80		50			20		160	
Lead, total	ug/L	**												
Magnesium, total	ug/L					31400	35100	33900	33400	29500	33100	32000	34400	32600
Manganese, total	ug/L		50											
Mercury, total	ug/L	2			2									
Nickel, total	ug/L													
Potassium, total	ug/L					2300	2300	2400	2700	2200	2500	2300	2700	2400
Selenium, total	ug/L	50												
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					62600	44400	57600	67000	60900	54000	52300	68700	54300
Strontium	ug/L					700	680	750	690	540J-	620	670	630	690
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L													
Zinc, total	ug/L		5000											

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW07A				MW08B						
						2/95	5/95	5/95 Dup.	7-8/95	2/95	5/95	7-8/95	12/95	5/96	11/96	5/97
Aluminum, total	ug/L		50-200							9	--	--	--	--	--	--
Antimony, total	ug/L	6								--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴		4	50					--	--	--	--	--	--	--
Barium, total	ug/L	2000				86.9			103	139.0	135	115	--	--	--	--
Beryllium, total	ug/L	4								--	--	--	--	--	--	--
Cadmium, total	ug/L	5								--	--	--	--	--	--	--
Calcium, total	ug/L					156000	129000	140000	187000	94500	90400	83100	--	--	--	--
Chromium, total	ug/L	100								13.2		14.8	6.0	18.2	45.7	8.9
Cobalt, total	ug/L									--	--	--	--	--	--	--
Copper, total	ug/L	**	1000							--	--	--	--	--	--	--
Iron, total	ug/L		300							181	152	535	491.0	498	493	--
Iron, Ferrous	ug/L									--	--	--	--	--	--	--
Lead, total	ug/L	**								--	--	--	--	--	--	--
Magnesium, total	ug/L					35100	28800	31100	40100	34600	32100	29300	--	--	--	--
Manganese, total	ug/L		50							15.4	7.9	5.2	--	--	--	--
Mercury, total	ug/L	2								--	--	--	--	--	--	--
Nickel, total	ug/L									--	--	--	--	--	--	--
Potassium, total	ug/L					1810			2190	3050	2390	2180	--	--	--	--
Selenium, total	ug/L	50								--	--	--	--	--	--	--
Silver, total	ug/L		100							--	--	--	--	--	--	--
Sodium, total	ug/L					20600	23000	24600	26100	42900	62500	62700	--	--	--	--
Strontium	ug/L					--	--	--	--	--	--	--	--	--	--	--
Thallium, total	ug/L	2								--	--	--	--	--	--	--
Vanadium, total	ug/L									--	--	--	--	--	--	--
Zinc, total	ug/L		5000							--	--	--	--	--	--	--

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW12A																	
							2/95	5/95	7-8/95	12/95	5/96	11/96	5/97	11/97	9/98	5/99	5/00	8/00	11/00	2/01	5/01	8/01		
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Arsenic, total	ug/L	50/10 ⁴			4	50																1.4		
Barium, total	ug/L	2000					129.0	128	115	--	--	--	--	--	--	--	110.0	--	140.0	--	120	--		
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cadmium, total	ug/L	5																						
Calcium, total	ug/L						86300	87200	86800	--	--	--	--	--	--	79500	84800	82300	91400	77900	86600	96700		
Chromium, total	ug/L	100					[119]	80.3	[120]	33	34.4	23.9	[127]	49	83	22	61.0	--	32.0	--	14	--		
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Copper, total	ug/L	**	1000																					
Iron, total	ug/L		300				817.0	407	785	--	--	--	--	--	--	--	250	1700	160	170	89	2200		
Iron, Ferrous	ug/L						--	--	--								--	--	--	--	--	--		
Lead, total	ug/L	**																						
Magnesium, total	ug/L						37900	37800	36000	--	--	--	--	--	--	33200	33400	33100	36700	31500	33100	38700		
Manganese, total	ug/L		50																					
Mercury, total	ug/L	2																						
Nickel, total	ug/L																							
Potassium, total	ug/L						3130	2560	2860	--	--	--	--	--	--	--	2500	3100	3000	2600	2700	3200		
Selenium, total	ug/L	50																						
Silver, total	ug/L		100																					
Sodium, total	ug/L						25500	32500	27300	--	--	--	--	--	--	26700	47100	40800 J	37700	34400	65300	38900		
Strontium	ug/L						--	--	--							--	470	--	610J	--	500	--		
Thallium, total	ug/L	2															[10.1]							
Vanadium, total	ug/L																							
Zinc, total	ug/L		5000																					

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW12A (cont'd)																
							11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05	11/05	5/06	11/06	5/07	11/07	5/08	
Aluminum, total	ug/L						--	--	--	--				--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6					--	--	--	--				--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴			4	50			1.1		20	120	130	100	120	100	120	110	120	79	110	85	
Barium, total	ug/L	2000					140	--	95	--				--	--	--	--	--	--	--	--	--	
Beryllium, total	ug/L	4					--	--	--	--				--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5					--	--	--	--				--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L						96700	96300	81200	81000	6000R	84500J	91000	83300	80800	83500	87600	81100	94500	71800	79700	76800	
Chromium, total	ug/L	100					21	--	25	--				23	12	12	72	29	19	93	12	36	60
Cobalt, total	ug/L						--	--	--	--				--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000											--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300				240	210	130	5200				89J	220J	57	120	380	190	150	430	140	260
Iron, Ferrous	ug/L						--	--						10	10	80	30	70	10	20		20	30
Lead, total	ug/L	**					--	--	--	--				--	--	--	--	--	--	--	--	--	
Magnesium, total	ug/L						38200	39800	33700	35100	26600	35500	37700	35900	33600	37000	37500	34900	39000	30800J+	33400	33100	
Manganese, total	ug/L		50				--	--	--	--				--	--	--	--	--	--	--	--	--	
Mercury, total	ug/L	2					--	--	--	--				--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L						--	--	--	--				--	--	--	--	--	--	--	--	--	
Potassium, total	ug/L						2400	2300	1900	2400	3100	2300	2900	2400	2600	3100	2900	2300	2200	2100	2400	2000	
Selenium, total	ug/L	50					--	--	--	--				--	--	--	--	--	--	--	--	--	
Silver, total	ug/L		100				--	--	--	--				--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L						40000	39900	31700	28700	30800	36400	30700	31500	28600	47000	37100	31100	51900	25000	34200	29800	
Strontium	ug/L						550J	--	480	--	540	540	620J	400	600	510	560	430	510	490	500	500	
Thallium, total	ug/L	2					--	--	--	--				--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L						--	--	--	--				--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000				--	--	--	--				--	--	--	--	--	--	--	--	--	

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW12A (cont'd)															
							11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13	11/13	5/14	11/14	5/15	11/15	5/16
Aluminum, total	ug/L	50-200					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴					4	50														1.5
Barium, total	ug/L	2000					120	94.4	111	122	143	120	120	110	120	110	130	110	140	110	130	140
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L						82000	73900	76900	91000	90500	106000	88100	81100	82700	94100	83800	79400	87600	94300	84000	94100
Chromium, total	ug/L	100					[290]	92.5	13.6	18.5	[103]	100	[160]	37	93	37	53	[120]	[110]	34		[220]
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300				1700	491	84	162	488	580	81	200	510	200	360	840	1400	340		2300
Iron, Ferrous	ug/L						10		10		30	30	120	170		70	90	50		130		10
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L						35000	32500	33100	38100	37400	36500	37600	35700	36200	40900	35200	36300	38800	40200	36300	40300
Manganese, total	ug/L		50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L						2300	2420	2300	2200	2790	2200	2500	2300	2600	2400	2600	2000	2500	2000	2500	2300
Potassium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L						28600	109000	31500	45200	39700	78600	36600	33000	38300	39800	40700	38700	42000	41400	40300	41300
Strontium	ug/L						520	434	521	452	558	480	530	570	550	630	600	420	540	540	490	610
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW12A (cont'd)		
						10/16	5/17	11/17
Aluminum, total	ug/L		50-200			--	--	--
Antimony, total	ug/L	6		10/5		--	--	--
Arsenic, total	ug/L	50/10 ⁴		4	50			
Barium, total	ug/L	2000				140	130	130
Beryllium, total	ug/L	4		2	1*	--	--	--
Cadmium, total	ug/L	5				--	--	--
Calcium, total	ug/L					89500	84500	83100
Chromium, total	ug/L	100				50	[110]	55
Cobalt, total	ug/L					--	--	--
Copper, total	ug/L	**	1000					
Iron, total	ug/L		300			3100	460	520
Iron, Ferrous	ug/L					20	0	0
Lead, total	ug/L	**						
Magnesium, total	ug/L					38300	37200	35000
Manganese, total	ug/L		50					
Mercury, total	ug/L	2			2			
Nickel, total	ug/L							
Potassium, total	ug/L					2600	2400	2300
Selenium, total	ug/L	50						
Silver, total	ug/L		100			--	--	
Sodium, total	ug/L					43800	44800	36900
Strontium	ug/L					630	570	620
Thallium, total	ug/L	2						
Vanadium, total	ug/L		5000			--	--	--
Zinc, total	ug/L							

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW12B																
							5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05	
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴			4	50	8.6	8.5	10	[12]	9.1	9.7	8.7	8.4	9.8	8.1	10	7.7	9.8	9.4	[13]	[13]	
Barium, total	ug/L	2000					380	--	370	--	340	--	370	--	350	--	350	310	350	330	340	350	
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L						80900	77100	85500	75700	79000	86000	83700	81400	78100	78900	83600	78200J	82300	80300	81800	81100	
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron, total	ug/L		300				1800	2000	2000	1800	1700	2200	2100	2000	1900	1900	2000	1400J	2000J	2100	2100	2300	
Iron, Ferrous	ug/L						--	--	--	--	--	--	--	--	--	--	--	1910	1830	1340	1370	1760	1660
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1710	
Magnesium, total	ug/L						35900	33700	37700	33400	34000	37500	37200	36200	34700	36400	36900	34800	37100	36300	36100	35700	
Manganese, total	ug/L		50				--	--	--	--	--	--	--	--	--	--	--	31	33	42	32	34	31
Mercury, total	ug/L	2					49.0	--	38.0	--	37	--	36	--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium, total	ug/L						2000	2000	2000	2000	2200	2400	1800	2100	1900	2000	2400	2000	2000	2000	2000	1900	1900
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L						24600	23200J	24500	23500	25300	27800	27300	27000	24900	26300	27300	27200	26400	26900	28700	27600	
Strontium	ug/L						--	--	2100J	--	1700	--	1600J	--	2400	--	1900	1600	1900J	1400	1700	1800	
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10 ⁻⁴ Risk ¹	ARARS ²	MW12B (cont'd)																
						11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13	
Aluminum, total	ug/L	6	50-200	10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	50/10 ⁴		4	50	8.8	8	8.4	8.6	8.6	8.5	9.2	8.4	8.5	2.3	8.6	8.5	9.1	8.8	9.1	9.2	
Arsenic, total	ug/L					330	340	340	350	330	330	320	318	61.4	324	340	330	330	320	310		
Barium, total	ug/L	2000				2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Beryllium, total	ug/L	4				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L					85900	81100	81100	77500	80900	78200	77200	79500	78900	80900	77700	80300	77100	75600	76100	75200	
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000			2000	2000	2000	1900	2000	1900	2000	1760	1640	1280	1890	1800	1800	1800	1800	1900	
Iron, total	ug/L		300			1410	1850	1880	1870	1020	1900	1330	1460	660	1040	660	1230	1160	1350	970	1720	
Iron, Ferrous	ug/L																					
Lead, total	ug/L	**				37800	36200	37900	35100+	36000	34700	34500	35800	35700	13100	35300	35300	34700	34400	34400	34600	
Magnesium, total	ug/L					35	34	33	32	33	32	32	39	44.1	94.2	39.1	38	40	39	41	39	
Manganese, total	ug/L		50			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Mercury, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L					1900	1800	1700	1900	1800	1700	1800	2000	1960	1810	2060	2100	2000	1900	2000	2100	
Potassium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L					30200	27600	29300	28500	31600	30600	31000	35600	35400	32800	40300	36000	39000	38500	41000	41000	
Strontium	ug/L					1800	1400	1800	2200	1700	2200	1800	1660	1830	292	1810	2100	2500	2000	2300	2100	
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW12B (cont'd)								
						11/13	5/14	11/14	5/15	11/15	5/16	10/16	5/17	11/17
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴		4	50	9.2	8.5	8.5	9.1	8.5	8.8	8.3	8	8.2
Barium, total	ug/L	2000				330	310	330	320	320	300	320	310	290
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					77600	73100	76700	75700	75200	73900	73100	73400	74500
Chromium, total	ug/L	100												
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000											
Iron, total	ug/L		300			1900	1800	1800	1900	1600	1700	1700	1400	1500
Iron, Ferrous	ug/L					1790	1490	1610	1880	1290	1690	1560	1320	1180
Lead, total	ug/L	**												
Magnesium, total	ug/L					34300	34200	36000	33700	34200	33100	33600	34300	33700
Manganese, total	ug/L		50			41	34	42	39	44	37	45	47	45
Mercury, total	ug/L	2			2									
Nickel, total	ug/L													
Potassium, total	ug/L					2100	1900	2000	2100	2200	2000	2100	2300	2100
Selenium, total	ug/L	50												
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					45400	37900	45300	41300	45800	42400	44800	45000	42700
Strontium	ug/L					1900	1500	1800	1700	1700	1900	1900	1800	1700
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L													
Zinc, total	ug/L		5000											

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POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW13B															
							2/95	5/95	7-8/95	5/99	5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03
Aluminum, total	ug/L	50-200					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴					5.7	4.5	--	3.8	3.4	7.8	4.6	3.7	3.9	2.6	3.9	4.4	4.9	4.6	3.6	
Barium, total	ug/L	2000					253.0	226	240	--	--	220	--	--	--	220	--	--	--	--	190	--
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L						106000	94500	105000	95000	99300	93000	101000	92700	94300	102000	105000	99800	94800	96900	95200	93000J
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000				3190.0	2520	2720	2520	2600	2500	2600	2500	2500	2700	2800	2800	2600	2600	2600	2500J
Iron, total	ug/L		300				--	--	--	--	--	--	--	--	--	--	--	2710	2540	2230	2110	
Iron, Ferrous	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L						38400	33300	36300	35000	34600	32400	35500	32600	32400	35700	36800	35000	33300	34800	34400	33100
Manganese, total	ug/L		50				68.4	57.8	63.8	58.4	--	--	65	--	--	--	72	--	--	--	70	--
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L						2280	2270	--	--	2600	2700	--	2800	2700	3000	2800	2600	2700	3000	2700	2600
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100				--	--	2.2	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L						20100	18600	19700	16400	17800	17200 J	17900	17400	16900	18600	18800	18100	17900	18900	18000	19000
Strontium	ug/L						--	--	--	--	--	430J	--	--	--	190J	--	--	--	--	140	--
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW13B (cont'd)															
							11/03	5/04	11/04	5/05	11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	568	--	--	--	--
Antimony, total	ug/L	6	50-200		10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴			4	50	4.8	4.5	5.7	5.0	4.0	3.5	3.8	3.8	4.0	3.9	3.9	4.2	4.5	4.8	5.5	5.0
Barium, total	ug/L	2000					200	--	200	--	210	--	210	--	220	--	210	--	234	--	254	--
Beryllium, total	ug/L	4			2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5																				
Calcium, total	ug/L						95600	90500	92700	96600	97900	96500	93400	93100	95000	94700	93400	96600	115000	98700	103000	95700
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L						2800J	3200	2800	2600	2700	2600	2600	2600	2700	2600	2500	2560	3470	2680	2970	2200
Iron, Ferrous	ug/L						2380	1960	2310	2560	1870	2390	2220	--	2790	2020	1890	2030	690	2630	530	1240
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	8.9	--	--	--	--
Magnesium, total	ug/L						33500	32700	31700	32000	32700	33400	33200	33200 ^{J+}	33200	32900	34100	34900	41600	35700	36600	35600
Manganese, total	ug/L						70	--	71	--	70	--	72	--	67	--	64	--	142	--	74.2	--
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L						2700	2500	2400	2400	2500	2600	2400	2500	2600	2600	2700	2550	3140	2810	2910	2200
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L						21200	19700	20000	20000	20800	21100	19800	21700	23900	22500	21400	22100	22900	24600	27600	20300
Strontium	ug/L						160J	--	200	--	190	--	170	--	180	--	190	--	216	--	208	--
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW13B (cont'd)												
						10/11	5/12	11/12	5/13	11/13	5/14	11/14	5/15	11/15	5/16	10/16	5/17	11/17
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴		4	50	4.2	4.2	6.5	4.7	5.2	4.5	4.5	4.4	4.2	4.1	4.4	4.1	4.5
Barium, total	ug/L	2000				250	--	250	--	230	--	270	--	240	--	250	--	250
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L					99000	96500	98100	92700	92200	91100	96500	89200	89900	96300	90000	97900	94800
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	
Iron, total	ug/L		300			2800	2700	3000	2900	2700	2600	2800	2800	2600	2800	2700	2800	2900
Iron, Ferrous	ug/L					2260	1340	1980	1920	1230	1710	2590	2040	2180	2670	2570	2620	2840
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	
Magnesium, total	ug/L					36400	34300	37000	34900	33100	34400	36900	32500	32700	34700	33.9	37800	34400
Manganese, total	ug/L		50			71	--	71	--	65	--	76	--	63	--	70	--	65
Mercury, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	
Potassium, total	ug/L					3400	3200	3000	3400	3000	2600	3300	3100	3300	3400	3200	3400	3100
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L					33300	30000	30000	28500	26300	25200	29300	32000	38600	40100	30600	31900	29800
Strontium	ug/L		2			220	--	210	--	210	--	200	--	170	--	200	--	220
Thallium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW13C															
							5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05
Aluminum, total	ug/L						330	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴			4	50	6.0	7.2	15.0	7.9	6.3	5.4	6.0	6.4	6.7	6.9	6.7	6.0	7.2	4.7	8.2	7.2
Barium, total	ug/L	2000					380	--	--	--	340	--	--	--	330	--	--	330	--	320	--	330
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L						101000	89300	96800	83500	91200	101000	98600	93300	89100	93200	84700	91800J	92700	90100	86200	94800
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000																			
Iron, total	ug/L		300				2700	2400	2500	2200	2400	2700	2600	2500	2400	2500	2200	2400J	2500J	2100	2400	2400
Iron, Ferrous	ug/L						--	--	--	--	--	--	--	--	2780	2420	2260	2150	2210	1920	2250	2300
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L						38100	33300	36200	31800	33900	38100	37500	35900	34200	36200	32900	35800	35300	34000	33000	35000
Manganese, total	ug/L		50				64.0	--	--	--	59	--	--	--	59	--	--	62	--	62	--	59
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L						2200	1900	1900	1800	2000	2200	2000	1900	1900	1900	1900	1900	2000	2000	1900	1800
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L						16900	15100 J	15200	14500	15000	16400	16600	15900	15400	16600	15600	15100	15800	15600	15700	17000
Strontium	ug/L						420	--	--	--	380	--	--	--	450	--	--	410	--	300	--	380
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW13C (cont'd)																
							11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13	
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴			4	50	5.6	5.1	5.4	5.1	6.0	4.9	5.0	5.2	5.6	5.8	5.7	4.0	5.6	5.3	6.1	5.5	
Barium, total	ug/L	2000					--	320	--	330	--	330	--	334	--	346	--	260	--	360	--	360	
Beryllium, total	ug/L	4			2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L						91700	89600	88100	86400	86800	92200	91400	94000	92100	92200	89500	106000	92700	92600	89100	87900	
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron, total	ug/L						2400	2200	2300	2200	2300	2300	2400	2490	2430	2370	2230	2800	2600	2500	2600	2400	
Iron, Ferrous	ug/L						1950	2160	1940	--	2350	2180	1860	2060	790	1460	990	880	1830	2290	2310	1770	
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Magnesium, total	ug/L						34300	33700	34200	33300J+	31900	34200	35000	35400	34900	34900	35400	37200	36000	35000	34300	34700	
Manganese, total	ug/L						--	59	--	58	--	65	--	65	--	60.6	--	72	--	58	--	57	
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium, total	ug/L						1800	1800	1700	1800	1800	1800	1900	1900	1900	1920	2110	3300	2300	2200	2200	2100	
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Silver, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L						17600	17800	18300	17800	17600	17200	16800	17300	18000	18100	19600	31400	20000	20400	20000	20800	
Strontium	ug/L						--	--	280	--	340	--	340	--	359	--	325	--	220	--	420	--	460
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW13C (cont'd)								
						11/13	5/14	11/14	5/15	11/15	5/16	10/16	5/17	11/17
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴		4	50	5.5	5.6	5.3	5.2	5.2	5.5	5.4	5.7	5.1
Barium, total	ug/L	2000				--	360	--	370	--	370	--	400	--
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					89500	85000	90700	88600	88900	89600	84800	93200	91400
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			2500	2400	2500	2500	2400	2500	2400	2500	2500
Iron, Ferrous	ug/L					1790	1560	2170	2200	2080	2310	2380	2140	2310
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					34200	35100	37000	34600	34300	34400	33800	37100	34700
Manganese, total	ug/L		50			--	56	--	59	--	57	--	61	--
Mercury, total	ug/L	2			2	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					2200	2000	2400	2400	2400	2300	2300	2600	2300
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					23900	20500	23300	23800	23300	24200	24000	27800	25200
Strontium	ug/L					--	380	--	460	--	450	--	520J+	--
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW14B															
							2/95	5/95	7-8/95	12/95	5/96	11/96	5/97	11/97	9/98	5/99	5/00	8/00	11/00	2/01	5/01	8/01
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴			4	50				5.0		5.8	--	--	--	6.13	3.9	4.2	4.4	3.9	3.4	4
Barium, total	ug/L	2000					201.0		193	207	--	--	--	--	--	--	--	--	200	--	--	--
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5																				
Calcium, total	ug/L						99400	94300	102000	--	--	--	--	--	--	91300	97200	91500	101000	88700	92100	94700
Chromium, total	ug/L	100																				
Cobalt, total	ug/L																					
Copper, total	ug/L	**	1000																			
Iron, total	ug/L		300				2650.0	2540	2780	--	--	--	--	--	--	2510	2700	2600	2800	2500	2600	2700
Iron, Ferrous	ug/L						--	--	--													
Lead, total	ug/L	**																				
Magnesium, total	ug/L						38100	35800	37700	--	--	--	--	--	--	35000	36800	34000	38000	33900	33800	35600
Manganese, total	ug/L		50					71.1	67.9	73.1	--	--	--	--	--	67.9	--	--	75	--	--	--
Mercury, total	ug/L	2																				
Nickel, total	ug/L																					
Potassium, total	ug/L																1900	1900		1900	2100	2200
Selenium, total	ug/L	50																				
Silver, total	ug/L		100																			
Sodium, total	ug/L																					
Strontium	ug/L		2																			
Thallium, total	ug/L																					
Vanadium, total	ug/L																					
Zinc, total	ug/L		5000																			

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW14B (cont'd)																
							11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05	11/05	5/06	11/06	5/07	11/07	5/08	
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Arsenic, total	ug/L	50/10 ⁴			4	50	2.5	3.0	4.1	2.7	3.7	3.6	4.4	3.3	4.9	4.2	3.7	3.2	3.5	3.3	3.4	3.5	
Barium, total	ug/L	2000					200	--	--	--	190	--	220	--	200	--	210	--	190	--	190	--	
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L						94900	90400	89900	92100	91300	88500J	95800	92300	91900	96700	98500	93200	85800	82900	83100	85000	
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron, total	ug/L		300				2600	2500	2600	2600	2400	2500J	2700J	2600	2600	2600	2800	2600	2500	2400	2400	2400	
Iron, Ferrous	ug/L						--	--	--	2280	2430	1640	1970	2270	1670	2500	2470	2420	2420	1800	--	2410	2060
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Magnesium, total	ug/L						36000	34700	34800	35500	35800	34200	35400	35600	35100	36100	36600	34500	33400	32200J	30500	31300	
Manganese, total	ug/L		50				71	--	--	--	69	--	70	--	71	--	74	--	69	--	65	--	
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium, total	ug/L						2000	1900	2000	2000	2000	2000	2300	2200	2000	2100	2100	2100	1900	2000	2000	2000	
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L						17100	16300	17500	18300	17500	20200	20600	19600	20300	21000	21800	22300	22400	21200	25600	22900	
Strontium	ug/L						210J	--	--	--	190	--	210J	--	220	--	210	--	200	--	180	--	--
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW14B (cont'd)															
							11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13	11/13	5/14	11/14	5/15	11/15	5/16
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6	50-200		10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴			4	50	3.0	3.4	3.6	3.6	3.4	3.2	3.3	3.3	3.6	3.5	3.9	3.4	3.4	3.3	3.1	3.4
Barium, total	ug/L	2000					180	--	193	--	200	--	210	--	200	--	170	--	240	--	220	--
Beryllium, total	ug/L	4			2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L						82100	87600	86100	89000	89100	89800	88900	88800	84000	83900	83500	82200	85400	87300	86200	86900
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300				2400	2480	2540	2470	2490	2400	2600	2600	2300	2500	2400	2300	2400	2600	2400	2400
Iron, Ferrous	ug/L						1670	2020	890	500	600	1710	1650	2540	1400	1910	1970	1650	2000	1880	2740	1960
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L						31000	32800	32100	32600	32100	31600	32400	32000	32400	32700	30900	31400	33400	32900	32300	32600
Manganese, total	ug/L		50				64	--	71.2	--	77.4	--	75	--	73	--	66	--	76	--	70	--
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L						2000	2150	2270	2300	2510	2800	3000	3000	2700	2700	2100	2700	3100	2900	2900	3000
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L						23900	24700	23900	24100	24200	25000	24200	24200	22700	23600	22900	22700	23200	23800	23200	24900
Strontium	ug/L		2				180	--	193	--	170	--	170	--	170	--	180	--	180	--	160J	--
Thallium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW14B (cont'd)		
						10/16	5/17	11/17
Aluminum, total	ug/L		50-200			--	--	--
Antimony, total	ug/L	6		10/5		--	--	--
Arsenic, total	ug/L	50/10 ⁴		4	50	3.2	3.3	3.0
Barium, total	ug/L	2000				210	--	210
Beryllium, total	ug/L	4		2	1*	--	--	--
Cadmium, total	ug/L	5				--	--	--
Calcium, total	ug/L					84200	85000	85200
Chromium, total	ug/L	100				--	--	--
Cobalt, total	ug/L					--	--	--
Copper, total	ug/L	**	1000			--	--	--
Iron, total	ug/L		300			2400	2400	2300
Iron, Ferrous	ug/L					2260	2450	2410
Lead, total	ug/L	**				--	--	--
Magnesium, total	ug/L					32800	34000	32800
Manganese, total	ug/L		50			75	--	69
Mercury, total	ug/L	2			2	--	--	--
Nickel, total	ug/L					--	--	--
Potassium, total	ug/L					2700	2700	2700
Selenium, total	ug/L	50				--	--	--
Silver, total	ug/L		100			--	--	--
Sodium, total	ug/L					23000	25000	25100
Strontium	ug/L					190	--	190
Thallium, total	ug/L	2				--	--	--
Vanadium, total	ug/L		5000			--	--	--
Zinc, total	ug/L					--	--	--

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							2/95	5/95	7-8/95	5/99	5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	
Aluminum, total	ug/L						--			140	--	--	--	--	--	--	--	--	--	--	--		
Antimony, total	ug/L	6					--	--		--		--	--	--	--	--	--	--	--	--	--		
Arsenic, total	ug/L	50/10 ⁴			4	50				--	1							1.2			1.4		
Barium, total	ug/L	2000					259.0	237	269	--	310	--	270	--	270	--	260	--	280	--	250	260	
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Calcium, total	ug/L						98900	88400	104000	89400	98500	85600	92200	87300	89700	95400	93400	94300	95100	95000	94100	93500J	
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Iron, total	ug/L		300				--	--	--	--	--	51				96						UJ	
Iron, Ferrous	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	140	10			
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Magnesium, total	ug/L						40900	34600	40100	37200	38200	32800	35800	34600	34000	36800	36600	37200	37200	37200	36400	35800	
Manganese, total	ug/L						365.0	303	375	616	660	--	450	--	400	--	380	--	420	--	430	390	
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Potassium, total	ug/L						3170	3240	4390	--	4200	3400	3200	3200	3500	3600	3000	3100	3300	3300	3400	3700	
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Sodium, total	ug/L						35000	28000	39100	29300	38300	41400 J	42000	35100	40600	43300	38500	38000	35500	37400	36100	36400	
Strontium	ug/L						--	--	--	--	800	--	750J	--	700	--	740J	--	880	--	770	740	
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		

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HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW15B (cont'd)															
							11/03	5/04	11/04	5/05	11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11
Aluminum, total	ug/L	50-200					--	--	--	--	--	--	--	--	--	--	--	--	--	101	--	--
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴			4	50	2.0	1.5	1.9	2.5	2.1	2.0	2.2	2.8	3.2	3.4	4.1	3.9	3.9	3.9	6.1	4.0
Barium, total	ug/L	2000					310	300	270	310	280	270	260	280	230	250	250	257	200	224	228	240
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L						106000	110000	91700	113000	99600	95400	93200	97200	83300	89900	91000	98000	77600	88100	87500	100000
Chromium, total	ug/L	100																				
Cobalt, total	ug/L																					
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300																			
Iron, Ferrous	ug/L						10	39	120	60	80	90	90	--	220	360	370	420	350	380	470	620
Lead, total	ug/L	**																				
Magnesium, total	ug/L																					
Manganese, total	ug/L		50																			
Mercury, total	ug/L	2																				
Nickel, total	ug/L																					
Potassium, total	ug/L																					
Selenium, total	ug/L	50																				
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L																					
Strontium	ug/L																					
Thallium, total	ug/L	2																				
Vanadium, total	ug/L																					
Zinc, total	ug/L		5000																			

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HUBER HEIGHTS, OHIO

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						10/11	5/12	11/12	5/13	11/13	5/14	11/14	5/15	11/15	5/16	10/16	12/16 Resample	5/17	11/17
Aluminum, total	ug/L	50-200				--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6		10/5		7.1	5.1	5.3	5.1	6.3	6.1	6.9	6.5	6.2	8.1	8.0	--	4.9	5.2
Arsenic, total	ug/L	50/10 ⁴		4	50														
Barium, total	ug/L	2000				260	250	220	230	230	240	260	230	220	230	220	--	210	200
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L					99000	100000	87700	90900	87300	90600	91500	94200	89300	91300	87700	--	86600	80900
Chromium, total	ug/L	100																	
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000																
Iron, total	ug/L		300			1300	990	850	1000	1100	1100	1200	1300	1300	1700	1800	--	1100	1100
Iron, Ferrous	ug/L					700	980	870	1030	830	1080	1090	1220	1430	1930	1350	--	1150	1080
Lead, total	ug/L	**																	
Magnesium, total	ug/L					38100	38400	34600	35700	32500	36300	36900	36000	33200	35300	33900	--	34500	31100
Manganese, total	ug/L		50			330	300	270	290	270	270	250	240	240	250	260	--	240	230
Mercury, total	ug/L	2																	
Nickel, total	ug/L																		
Potassium, total	ug/L					3500	3400	2800	3500	3400	3100	3900	3100	3700	3200	3000	--	3000	3200
Selenium, total	ug/L	50																	
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L					43200	39800	43100	43300	47900	42600	40800	44200	46500	44900	48300	--	56600	49000
Strontium	ug/L					890	930	800	890	790	640	840	810	730	820	860	--	800	800
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L																		
Zinc, total	ug/L		5000																

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW15C															
						5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05
Aluminum, total	ug/L					630	--	--	--	260	--	--	--	200	--	--	--	--	--	--	120
Antimony, total	ug/L	6	50-200	10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴		4	50	13	13	5	15	13	12	12	11	[13]	[11]	[11]	[12]	[13]	[10]	[15]	[15]
Barium, total	ug/L	2000				610	--	--	--	540	--	--	--	510	--	--	500	--	500	--	500
Beryllium, total	ug/L	4				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					92900	80600	87600	79400	84600	87500	88000	81600	79100	83900	81700	80800J	84200	81800	79100	86700
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			3500	2400	2600	2600	2800	2800	2700	2800	2400	2500	1800	2200J	2300J	2100	2200	2200
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	1740	2060	1400	1830	2070	1970	1730	2010
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					4300	36800	40100	37000	38200	40200	40900	38600	37400	39400	39400	38400	38200	38000	37400	40200
Manganese, total	ug/L		50			33	--	--	--	32	--	--	--	27	--	--	23	--	27	--	28
Mercury, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					2300	1900	2000	1900	2200	2300	2000	2000	2000	2000	2200	2000	2300	2100	2200	1900
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					13400	12000J	12300	11700	11600	12700	12700	12200	11800	12800	12000	13000	13400	13500	13300	14900
Strontium	ug/L					5400	--	--	--	640	--	--	--	630	--	--	5300	--	5500	--	7000
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			310	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW15C (cont'd)															
							11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13
Aluminum, total	ug/L	50-200					--	190	--	--	--	--	--	189	--	--	--	--	220	--	500	
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴		4	50	[12]	[11]	[11]	[11]	[12]	[13]	[11]	[12.9]	[12.9]	[13.1]	[11.7]	[12.0]	[12.0]	[11.0]	[13.0]	[14.0]	
Barium, total	ug/L	2000					--	510	--	510	--	520	--	520	--	536	--	550	--	550	--	530
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L						86000	85800	78800	79400	76100	88200	82500	86100	82400	84000	80800	87300	85200	86600	84000	82400
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron, total	ug/L		300				2200	2300	2100	2100	2000	2400	2200	2760	2280	2400	2170	2500	2700	2500	2900	3000
Iron, Ferrous	ug/L						1840	1950	1900	--	1090	1560	1940	2030	680	1130	420	890	1230	1540	2120	2140
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Magnesium, total	ug/L						40000	39200	37800	38400J+	34600	39000	39000	39800	38600	39100	39900	39600	40000	39300	38700	39800
Manganese, total	ug/L		50				--	30	--	26	--	29	--	30.2	--	24.5	--	25	--	28	--	33
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium, total	ug/L						2000	2000	1900	1800	2000	2000	2600	2220	2340	2440	2490	2200	2300	2600	2500	2400
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L						14600	15000	14500	15200	14500	16000	16300	17400	16500	17600	18200	18500	18500	19700	19300	20100
Strontium	ug/L		2				--	5100	--	6800	--	6100	--	5670	--	4340	--	5400	--	4800	--	5300
Thallium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	22.6	--	--	--	--	--	--	--	

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW15C (cont'd)								
						11/13	5/14	11/14	5/15	11/15	5/16	10/16	5/17	11/17
Aluminum, total	ug/L		50-200			--	1300	--	1300	--	1200	--	610	--
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴		4	50	[12.0]	[18]	[13]	[13]	[12.0]	[13]	[13]	[12]	[11]
Barium, total	ug/L	2000				--	520	--	520	--	550	--	560	--
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					79300	94400	81600	83900	80800	85400	82900	87200	81200
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			2800	4300	2700	3400	2600	3400	2900	3000	2800
Iron, Ferrous	ug/L					2080	1760	2180	2050	1760	2260	2240	2160	2370
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					36300	44300	41000	39500	37600	39400	38500	41500	37100
Manganese, total	ug/L		50			--	67	--	41	--	43	--	39	--
Mercury, total	ug/L	2			2	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					2200	2500	2600	2500	2400	2600	2500	2600	2200
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					20700	21200	21200	22100	22400	23800	23700	26700	23300
Strontium	ug/L					--	4400	--	5600	--	4800	--	4800	--
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW16A															
						2/95	5/95	6/20/95 ³		6/20/95 Dup.	7-8/95	5/96	11/96	11/96 Dup.	5/97	11/97	9/98	5/99	5/00	8/00	11/00
Aluminum, total	ug/L	6	50-200	10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	50/10 ⁴		4	50	14.4	12.6	16.9	18.9	19.2	15.9	14.3	12.7	16.0	7.3	13.5	10	6.3	6.6	5.3	7.4
Arsenic, total	ug/L					641.0	475	476	459	479	464	--	--	--	--	--	--	--	560	--	440
Barium, total	ug/L	2000																			
Beryllium, total	ug/L	4																			
Cadmium, total	ug/L	5																			
Calcium, total	ug/L																				
Chromium, total	ug/L	100																			
Cobalt, total	ug/L																				
Copper, total	ug/L	**	1000																		
Iron, total	ug/L		300																		
Iron, Ferrous	ug/L																				
Lead, total	ug/L	**																			
Magnesium, total	ug/L																				
Manganese, total	ug/L																				
Mercury, total	ug/L	2																			
Nickel, total	ug/L																				
Potassium, total	ug/L																				
Selenium, total	ug/L	50																			
Silver, total	ug/L		100																		
Sodium, total	ug/L																				
Strontium	ug/L																				
Thallium, total	ug/L	2																			
Vanadium, total	ug/L																				
Zinc, total	ug/L		5000																		

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW16A (cont'd)															
							2/01	5/01	8/01	11/01	2/02	2/02 Dup.	5/02	8/02	11/02	5/03	5/03 Dup.	11/03	11/03 Dup.	5/04	11/04	5/05
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴			4	50	6.8	6.8	7	6.5	5.6	5.2	7.3	6.7	6.9	5.3	5.4	6.4	6.3	5.0	6.8	5.0
Barium, total	ug/L	2000					--	440	--	420	--	--	450	--	390	390	400	480	470	490	430	420
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L						104000	106000	10500	104000	118000	113000	110000	102000	102000	118000J	119000J	124000	121000	134000	111000	120000
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L						10500	10000	9500	9500	10600	10200	9700	8700	8700	9100J	9200J	9400J	9200J	9700	8500	7700
Iron, Ferrous	ug/L						--	--	--	--	--	--	10840	6040	1440	1280		2690		2660	5280	5280
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L						37900	37700	37600	38200	42700	41100	40200	38800	36700	40500	40500	46500	45100	48900	40900	41900
Manganese, total	ug/L						--	170	--	170	--	--	180	--	160	180	180	190	180	190	160	160
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L						7200	7800	7700	6400	8200	8000	8000	7900	6200	6800	6900	9600	9200	8800	6800	8700
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L						32900	33700	36500	36900	42200	41400	41300	39400	33000	34800	35100	47700	45800	43800	35100	38200
Strontium	ug/L						--	820	--	810J	--	--	1000	--	900	940	920	960J	960J	840	1000	1000
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW16A (cont'd)																		
							11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13			
Aluminum, total	ug/L	50-200					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Arsenic, total	ug/L	50/10 ⁴					4	50	5.0	4.2	4.4	3.6	3.6	2.4	3.5	2.8	3.7	3.9	5.1	[11.0]J+	8.5	5.4	4.6	5.3	
Barium, total	ug/L	2000							420	390	410	530	440	420	420	381	350	336	277	210	370	380	390	350	
Beryllium, total	ug/L	4					2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cadmium, total	ug/L	5							--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Calcium, total	ug/L								116000	110000	114000	123000	116000	120000	108000	116000	120000	104000	119000	122000	114000	103000	118000	104000	
Chromium, total	ug/L	100																							
Cobalt, total	ug/L																								
Copper, total	ug/L	**	1000						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Iron, total	ug/L		300							8400	7800	8300	8800	8500	8200	8200	8130	8220	7800	11500	9300	8400	8200	8600	8500
Iron, Ferrous	ug/L									1560	6000	2370	2850	1900	2780	2270	2040	1060	1480	2100	740	2460	4840	2720	1330
Lead, total	ug/L	**																							
Magnesium, total	ug/L																								
Manganese, total	ug/L		50																						
Mercury, total	ug/L	2																							
Nickel, total	ug/L																								
Potassium, total	ug/L																								
Selenium, total	ug/L	50																							
Silver, total	ug/L		100																						
Sodium, total	ug/L																								
Strontium	ug/L																								
Thallium, total	ug/L	2																							
Vanadium, total	ug/L																								
Zinc, total	ug/L		5000																						

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW16A (cont'd)								
						11/13	5/14	11/14	5/15	11/15	5/16	10/16	5/17	11/17
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴		4	50	3.7	4.5	3.0	2.0	1.7	1.3	1.3	1.2	1.1
Barium, total	ug/L	2000				370	440	450	420	470	510	420	370	360
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					117000	114000	115000	110000	115000	117000	119000	108000	107000
Chromium, total	ug/L	100												
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000											
Iron, total	ug/L		300			7500	9900	8300	8500	8400	9200	9300	7400	7900
Iron, Ferrous	ug/L					4180	1350	4460	4120	2960	6360	5260	1450	8640
Lead, total	ug/L	**												
Magnesium, total	ug/L					39400	47000	46200	39600	41600	43400	44700	38500	36600
Manganese, total	ug/L		50			180	180	190	190	180	200	200	180	190
Mercury, total	ug/L	2			2									
Nickel, total	ug/L													
Potassium, total	ug/L					5600	7700	6900	6700	7000	7900	6000	6800	6100
Selenium, total	ug/L	50												
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					35800	53000	44100	43000	43900	52100	43700	45600	43300
Strontium	ug/L					900	760	900	800	800	890	910	820	880
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L													
Zinc, total	ug/L		5000											

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW16B															
							2/95	5/95	7-8/95	7-8/95 Dup.	5/96	11/96	5/97	11/97	11/97 Dup.	9/98	5/99	5/00	8/00	11/00	2/01	5/01
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	6500	--	310	--			
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--					
Arsenic, total	ug/L	50/10 ⁴			4	50	13.9	13.2	9.8	9.6	7.8	9.6	10.0	10.8	8.4	11	10.5	9.7	6.7	8.5	7.8	7.9
Barium, total	ug/L	2000					242.0	227	218	215	--	--	--	--	--	--	--	320	--	230	--	210
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5					89400	83700	82300	81000	--	--	--	--	--	--	81600	84600	77700	84700	77000	77200
Calcium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000				3140	2780	2020	1850	--	--	--	--	--	--	1660	6300	2600	1800	1400	1500
Iron, total	ug/L		300				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron, Ferrous	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Lead, total	ug/L	**					35800	33500	33100	32800	--	--	--	--	--	--	35300	35900	31800	34800	32000	30900
Magnesium, total	ug/L						380.0	376	441	453	--	--	--	--	--	--	468	510	--	480	--	430
Manganese, total	ug/L		50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Mercury, total	ug/L	2					2470	2820	--	--	--	--	--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium, total	ug/L						--	--	--	--	--	--	--	--	--	--	4800	3100	2700	2400	2600	
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Silver, total	ug/L		100				21400	21700	21000	20600	--	--	--	--	--	--	24400	29100	26400 J	27600	26600	28400
Sodium, total	ug/L						--	--	--	--	--	--	--	--	--	--	770	--	800J	--	650	
Strontium	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	34	--	--	--	
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW16B (cont'd)																
							8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05	11/05	5/06	11/06	5/07	11/07	
Aluminum, total	ug/L						--	--	--	270	--		130		--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6					--	--	--	--	--		--		--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴			4	50	7.3	6.5	8.0	7.2	4.9	7.1	5.9	9.8	6.7	10.0	8.0	5.0	5.3	4.8	6.0	5.7	
Barium, total	ug/L	2000					--	230	--	240	--	210	230	250	250	230	240	220	230	200	240	200	
Beryllium, total	ug/L	4					--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5					--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L						85500	81900	84600	82500	79300	82400	87500J	92800	90000	85900	91100	90300	85100	81500	89000	83300	
Chromium, total	ug/L	100					--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L						--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000				--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	
Iron, total	ug/L						4300	1400	3500	1400	1200	1300	1200J	1900J	1600	1700	1100	1200	1200	1000	1200	1400	
Iron, Ferrous	ug/L						--	--	--	--	1100	1240	1110	1060	980	1460	1720	1580	870	1100	1110	1290	1210
Lead, total	ug/L	**					--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	
Magnesium, total	ug/L						34800	33500	35500	34700	34000	34400	36900	39200	37300	33800	37000	36900	35300	35300	38000J+	33700	
Manganese, total	ug/L						--	490	--	500	--	430	490	560	530	460	480	470	520	460	490	450	
Mercury, total	ug/L	2					--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L						--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	
Potassium, total	ug/L						3600	2500	3200	2800	2700	2600	2700	2700	3200	2900	3000	2600	2500	1900	2400	2500	
Selenium, total	ug/L	50					--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	
Silver, total	ug/L						--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L						33400	32600	32400	32100	30600	28600	31000	33400	29600	29000	34800	30800	29000	29900	30000	28300	
Strontium	ug/L						--	740J	--	860	--	700	720	900J	680	840	930	950	700	750	1000	750	
Thallium, total	ug/L	2					--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L						--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L						--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW16B (cont'd)																
						5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13	11/13	5/14	11/14	5/15	11/15	
Aluminum, total	ug/L	50-200				--	--	--	--	--	--	--	--	--	170	190	130	--	--	160	--	
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴		4	50	5.1	5.6	6.0	7.6	8.0	7.5	6.1	6.7	6.9	[11]	7.7	7.4	7.2	[11]	[11]	6.5	
Barium, total	ug/L	2000				210	200	204	207	201	185	200	200	220	200	220	200	210	240	210	200	
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5																				
Calcium, total	ug/L					80900	79600	86300	92800	88200	81500	83100	88000	87200	80600	80300	83600	76800	87700	81100	85600	
Chromium, total	ug/L	100																				
Cobalt, total	ug/L																					
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron, total	ug/L		300				1100	1200	1420	2240	1930	1820	1400	1700	1800	2300	1600	1700	1400	2500	2200	1700
Iron, Ferrous	ug/L						910	1270	1350	1090	810	810	1200	1400	1380	1500	750	1300	840	1650	1140	2130
Lead, total	ug/L	**																				
Magnesium, total	ug/L																					
Manganese, total	ug/L		50																			
Mercury, total	ug/L	2																				
Nickel, total	ug/L																					
Potassium, total	ug/L																					
Selenium, total	ug/L	50																				
Silver, total	ug/L		100																			
Sodium, total	ug/L																					
Strontium	ug/L																					
Thallium, total	ug/L	2																				
Vanadium, total	ug/L																					
Zinc, total	ug/L		5000																			

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW16B (cont'd)			
						5/16	10/16	5/17	11/17
Aluminum, total	ug/L		50-200					100	
Antimony, total	ug/L	6			10/5	--	--	--	--
Arsenic, total	ug/L	50/ 10^4		4	50	6.0	10.0	8.4	7.9
Barium, total	ug/L	2000				200	200	210	170
Beryllium, total	ug/L	4			1*	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--
Calcium, total	ug/L					82100	85400	86100	75800
Chromium, total	ug/L	100							
Cobalt, total	ug/L					--	--	--	--
Copper, total	ug/L	**	1000						
Iron, total	ug/L		300			1400	2700	2100	1900
Iron, Ferrous	ug/L					1410	2100	1970	2140
Lead, total	ug/L	**							
Magnesium, total	ug/L					34600	34800	36000	30500
Manganese, total	ug/L		50			400	390	390	320
Mercury, total	ug/L	2			2				
Nickel, total	ug/L								
Potassium, total	ug/L					2400	2700	2900	2500
Selenium, total	ug/L	50							
Silver, total	ug/L		100			--	--	--	--
Sodium, total	ug/L					42700	42700	47100	38700
Strontium	ug/L					740	860	850	980
Thallium, total	ug/L	2							
Vanadium, total	ug/L		5000			--	--	--	--
Zinc, total	ug/L								

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW17A																
						5/00	5/00 Dup.	8/00	8/00 Dup.	11/00	2/01	2/01 Dup.	5/01	8/01	11/01	11/01 Dup.	2/02	5/02	8/02	11/02	5/03	
Aluminum, total	ug/L		50-200			120	250	--	--	--	--	--	--	--	--	--	--	--	--	--		
Antimony, total	ug/L	6		10/5				--	--										--			
Arsenic, total	ug/L	50/10 ⁴		4	50			1.2														
Barium, total	ug/L	2000				430	430	--	--	380	--	--	360	--	360	370	--	330	--	320	390	
Beryllium, total	ug/L	4		2	1*				--	--	--	--	--	--	--	--	--	--	--	--		
Cadmium, total	ug/L	5							--	--	--	--	--	--	--	--	--	--	--	--		
Calcium, total	ug/L					180000	182000	133000	131000	140000	158000	154000	168000	145000	154000	159000	149000	156000	184000	152000	238000J	
Chromium, total	ug/L	100						--	--	--	--	--	--	--	--	--	--	--	--	--		
Cobalt, total	ug/L							--	--	--	--	--	--	--	--	--	--	--	--	--		
Copper, total	ug/L	**	1000																			
Iron, total	ug/L		300			15000	15100	10200	10000	9600	12000	11700	11500	9700	9700	10000	9300	9300	3400	9200	13900J	
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	--	--	--	3100	3380	1410	1030		
Lead, total	ug/L	**						--	--	--	--	--	--	--	--	--	--	--	--	--		
Magnesium, total	ug/L					41300	41700	34500	33900	40600	40800	39800	37900	36600	40400	41700	38500	37000	28800	39100	52000	
Manganese, total	ug/L		50					420	420	--	--	380	--	520	--	390	400	--	380	--	400	570
Mercury, total	ug/L	2							--	--	--	--	--	--	--	--	--	--	--	--		
Nickel, total	ug/L								--	--	--	--	--	--	--	--	--	--	--	--		
Potassium, total	ug/L					14100	14400	16700	16500	17000	13100	12800	12500	14800	12600	12400	12200	10900	5800	12200	9500	
Selenium, total	ug/L	50		100																		
Silver, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Sodium, total	ug/L					49600	50000	71500 J	70800 J	67500	42700	41800	34600	62800	52800	54300	52000	47700	24600	56500	24600	
Strontium	ug/L					780	780	--	--	700J	--	--	710	--	670J	660J	--	790	--	630	960	
Thallium, total	ug/L	2							--	--	--	--	--	--	--	--	--	--	--	--		
Vanadium, total	ug/L								--	--	--	--	--	--	--	--	--	--	--	--		
Zinc, total	ug/L		5000						--	--	--	--	--	--	--	--	--	--	--	--		

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW17A (cont'd)															
							11/03	5/04	5/04 Dup.	11/04	5/05	5/05 Dup.	11/05	5/06	11/06	5/07	5/07 Dup.	11/07	5/08	11/08	5/09	11/09
Aluminum, total	ug/L												150						120			
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴			4	50		1.9	1.3	1.3				1.2	1.0		1.0	1.0	1.1	1.1	1.0	1.5
Barium, total	ug/L	2000					270	270	280	260	240	240	210	250	260	230	220	250	240	230	228	267
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L						145000	167000	169000	142000	154000	152000	131000	154000	146000	127000	124000	143000	148000	128000	146000	
Chromium, total	ug/L	100																				
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000																			
Iron, total	ug/L		300				6900J	8600	8500	7200	6800	6800	6600	10300	6300	6300	6200	7100	7200	6000	6770	6990
Iron, Ferrous	ug/L						2230	1350	--	6200	1340	--	2120	3160	2700	--	1660	1980	1930	1800	780	
Lead, total	ug/L	**																				
Magnesium, total	ug/L						39100	45500	45900	41000	43500	42900	35800	43300	43000	38200J+	37600J+	38800	39800	36900	38400	45400
Manganese, total	ug/L		50				360	450	460	410	380	380	370	420	360	310	300	400	360	340	388	351
Mercury, total	ug/L	2																				
Nickel, total	ug/L																					
Potassium, total	ug/L						11700	11700	11500	11900	10100	10000	9900	9500	10500	8300	8100	9700	8300	8800	6900	9290
Selenium, total	ug/L	50		100																		
Silver, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L						59500	54300	54600	63300	43600	43700	38600	45000	48200	41400	40500	46900	41100	50400	33800	52700
Strontium	ug/L						690J	1200	1500	660	680	710	650	580	570	560	590	600	620	600	615	680
Thallium, total	ug/L	2																				
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000																			

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW17A (cont'd)															
							5/10	11/10	5/11	10/11	5/12	11/12	5/13	11/13	5/14	11/14	5/15	11/15	5/16	10/16	5/17	10/17
Aluminum, total	ug/L	50-200					105	--	--	--	250	320	790	--	--	--	--	--	160	120	--	--
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴			4	50	1.1	1.3	1.3	2.3	2.1	2.1	1.5	1.6	1.2	1.5	1.4		1.2	1.1	1.1	
Barium, total	ug/L	2000					267	292	250	280	260	270	250	290	260	240	240	260	300	320	250	310
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L						166000	156000	146000	134000	136000	141000	143000	154000	134000	113000	109000	131000	160000	149000	133000	152000
Chromium, total	ug/L	100																				
Cobalt, total	ug/L																					
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300																			
Iron, Ferrous	ug/L																					
Lead, total	ug/L	**																				
Magnesium, total	ug/L																					
Manganese, total	ug/L		50																			
Mercury, total	ug/L	2																				
Nickel, total	ug/L																					
Potassium, total	ug/L																					
Selenium, total	ug/L	50																				
Silver, total	ug/L		100																			
Sodium, total	ug/L																					
Strontium	ug/L																					
Thallium, total	ug/L	2																				
Vanadium, total	ug/L																					
Zinc, total	ug/L		5000																			

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW17B																	
							5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05		
Aluminum, total	ug/L						220	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Antimony, total	ug/L	6	50-200		10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Arsenic, total	ug/L	50/10 ⁴			4	50		1.8	2.3	1.9	1.8	1.8	2.0	2.0	1.8	2.5	1.9	3.0	2.0	2.6	2.5			
Barium, total	ug/L	2000					330	--	280	--	280	--	300	--	310	--	310	320	330	320	320	330		
Beryllium, total	ug/L	4			2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cadmium, total	ug/L	5																						
Calcium, total	ug/L						105000	87400	97300	89900	93400	95900	94600	94600	92400	94800	98200	99800J	103000	99000	95100	99000		
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Copper, total	ug/L	**	1000						58	--	--	--	--	--	--	--	--	--	--	--	--	--		
Iron, total	ug/L		300				1500	1200	1400	1300	1300	1300	1300	1400	1300	1300	1400	1400J	1500J	1400	1300	1300		
Iron, Ferrous	ug/L						--	--	--	--	--	--	--	--	--	--	1132	1350	1410	1070	1440	1230	1340	1360
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Magnesium, total	ug/L						36800	30400	34300	31800	33000	33800	33600	33600	32300	34400	35200	35000	36900	34600	33400	34100		
Manganese, total	ug/L		50				75	--	72	--	70	--	72	--	72	--	74	74	81	75	73	73		
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Potassium, total	ug/L						6400	5700	5700	5500	5700	6100	5700	5700	5600	5800	5700	5600	5900	6200	6000	6000	6200	
Selenium, total	ug/L	50					--	--	--	--	--	8	--	--	--	--	--	--	--	--	--	--		
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Sodium, total	ug/L						29500	25500J	27000	27000	27500	29500	28900	27600	27900	27100	26400	30700	31600	33100	36500	37800		
Strontium	ug/L						260	--	270J	--	260	--	280J	--	330	--	300	300	300J	580	320	290		
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Zinc, total	ug/L		5000				260	--	33	--	--	--	--	--	--	--	--	--	--	--	--	--		

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW17B (cont'd)																
						11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13	
Aluminum, total	ug/L	50-200				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6		10/5		1.9	2.2	2.2	2.2	2.0	1.9	2.2	2.2	2.2	2.0	2.4	2.3	2.7	2.3	2.5	2.2	
Arsenic, total	ug/L	50/10 ⁴		4	50	340	330	350	340	320	300	280	268	267	274	286	310	320	320	300	260	
Barium, total	ug/L	2000																				
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5																				
Calcium, total	ug/L					104000	104000	109000	101000	100000	94800	92000	86100	87600	90600	92400	99900	105000	103000	105000	85300	
Chromium, total	ug/L	100																				
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000																			
Iron, total	ug/L		300			1400	1600	1500	1400	1400	1300	1500	1320	1300	1340	1530	1600	1600	1600	1600	1400	
Iron, Ferrous	ug/L					1480	1460	1450	--	960	1380	1110	1250	780	1020	560	880	1200	1420	1550	1370	
Lead, total	ug/L	**																				
Magnesium, total	ug/L					36300	38700	38700	37200J+	35700	33600	33400	30900	31800	32000	33200	39200	39000	38900	38400	32700	
Manganese, total	ug/L		50			75	81	80	78	77	72	71	66.7	68.8	69.6	72	85	83	84	82	72	
Mercury, total	ug/L	2																				
Nickel, total	ug/L																					
Potassium, total	ug/L					6100	6400	6000	5700	5500	5400	5200	4920	4890	5040	4870	5100	5000	4500	4700	4300	
Selenium, total	ug/L	50																				
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L					36800	36300	33400	32300	32100	31300	29600	28200	29800	30100	29900	30300	30000	29300	29400J-	28300	
Strontium	ug/L					320	260	280	300	310	310	320	288	310	234	279	350	340	340	310	360	
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L																					
Zinc, total	ug/L		5000																			

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW17B (cont'd)											
						11/13	5/14	5/14 Dup.	11/14	5/15	5/15 Dup.	11/15	5/16	5/16 Dup.	10/16	5/17	10/17
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴		4	50	2.6	2.3	2.4	2.1	2.5	2.5	3.1	2.3	2.4	2.5	2.4	2.8
Barium, total	ug/L	2000				270	240	240	240	250	240	240	280	270	240	230	230
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					89700	81400	82800	78800	86200	84200	82200	95400	90900	83100	78300	79300
Chromium, total	ug/L	100															
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000														
Iron, total	ug/L		300			1400	1300	1400	1300	1500	1400	1600	1500	1500	1400	1400	1800
Iron, Ferrous	ug/L					1290	1070	1110	1190	1450	1420	860	1360	1370	1190	1170	1210
Lead, total	ug/L	**															
Magnesium, total	ug/L					33500	29800	30200	29700	31900	31100	30100	34900	33800	30600	29400	29200
Manganese, total	ug/L		50			73	65	66	68	71	69	70	78	75	68	66	68
Mercury, total	ug/L	2															0.2
Nickel, total	ug/L																
Potassium, total	ug/L					4400	4200	4300	4200	4200	4100	4300	4600	4600	4200	4000	4100
Selenium, total	ug/L	50															
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					32600	31100	31500	31300	32900	32100	33000	36500	34800	33300	33100	34200
Strontium	ug/L					290	220	220	250	250	250	240	260	270	250	270	280
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L																
Zinc, total	ug/L		5000														

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HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW18A																
							5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	11/02 Dup	5/03	11/03	5/04	11/04	
Aluminum, total	ug/L		50-200				400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6			10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴			4	50	1.6	1.9	1.6														
Barium, total	ug/L	2000					370	--	460	--	370	--	310	--	260	--	280	1.4	1.4	1.4	3.2	2.6	2.6
Beryllium, total	ug/L	4					--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5					--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L						190000	192000	201000	181000	184000	194000	181000	183000	159000	129000	170000	171000	180000J	233000	201000	186000	
Chromium, total	ug/L	100					--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L						--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000																				
Iron, total	ug/L		300				3600	4700	7000	5600	5300	5200	4600	5600	2400	7400	2300	2400	7800J	7300J	7300	6300	
Iron, Ferrous	ug/L						--	--	--		--	--	--	--	--	1620	2830	840	--	1350	4820	2460	3130
Lead, total	ug/L	**					--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	
Magnesium, total	ug/L						31100	31500	32000	28800	29100	30200	27400	28400	24200	35300	26700	26800	28500	38000	34400	33700	
Manganese, total	ug/L		50				160	--	760	--	450	--	590	--	450	--	280	280	240	760	590	420	
Mercury, total	ug/L	2					--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L						--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	
Potassium, total	ug/L						9300	10600	9800	7800	8000	8100	6600	6000	4400	12400	5500	5600	6200	6000	5100	5600	
Selenium, total	ug/L	50					--	--	--		--	6.5	--	--	--	--	--	--	--	--	--	--	
Silver, total	ug/L		100				--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L						24400	33300J	36200	27400	23500	19600	20200	19300	15500	60600	24400	24500	24500	26200	21700	30000	
Strontium	ug/L						880	--	1000J	--	1000	--	970J	--	970	--	790	840	860	1200J	1100	1000	
Thallium, total	ug/L	2					--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L						--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000				--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW18A (cont'd)															
						5/05	11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12
Aluminum, total	ug/L	50-200				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6		10/5		3.1	3.4	3.0	2.6	3.1		1.8	2.5	2.8	4.3	2.5	4.9	1.1	4.0	2.4	5.2
Arsenic, total	ug/L	50/10 ⁴		4	50	260	280	250	250	230	260	220	240	240	250	255	308	210	300	250	320
Barium, total	ug/L	2000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				190000	189000	189000	193000	171000	159000	172000	167000	159000	152000	168000	173000	155000	195000	170000	182000
Calcium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, total	ug/L					4500	5200	6500	3400	5200	7400	4800	5400	7200	6440	5490	8020	1600	5900	6200	11000
Iron, total	ug/L					1520	4720	2280	2000	--	1910	2610	2600	3050	600	1570	900	1400	1930	6200	1570
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead, total	ug/L	**				34100	33700	37500	36800	33900J+	30200	32700	33200	32700	34000	37100	39400	35200	44500	37800	41200
Magnesium, total	ug/L					540	350	400	450	410	270	240	290	189	123	192	239	92	180	300	190
Manganese, total	ug/L		50			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, total	ug/L	2				4600	4800	4900	4900	3700	4700	3600	4400	4450	4600	5280	5870	4200	6700	5300	6700
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					23600	30500	20200	29200	17600	30400	17100	27400	32200	45100	37900	43200	22400	51300	32700	46200
Selenium, total	ug/L	50				1000	1100	760	840	930	750	840	950	797	810	700	809	870	960	1100	790
Silver, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Strontium	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					5000															
Zinc, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW18A (cont'd)									
							5/13	11/13	5/14	11/14	5/15	11/15	5/16	10/16	5/17	10/17
Aluminum, total	ug/L		50-200				--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5		--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴			4	50	2.7	5.0	3.4	4.3	3.9	4.4	2.7	4.3	4.6	4
Barium, total	ug/L	2000					270	320	280	300	290	420	340	330	310	330
Beryllium, total	ug/L	4			2	1*	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L						153000	184000	160000	161000	172000	169000	183000	149000	143000	153000
Chromium, total	ug/L	100														
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000													
Iron, total	ug/L		300				6100	8900	8300	8300	7300	5800	5900	7700	9800	9600
Iron, Ferrous	ug/L						4560	2450	1880	6680	3300	7120	5120	6080	2060	5280
Lead, total	ug/L	**														
Magnesium, total	ug/L						36200	41000	36100	36200	38500	37800	39200	34600	35500	38700
Manganese, total	ug/L		50				150	210	170	210	210	450	230	200	210	190
Mercury, total	ug/L	2														
Nickel, total	ug/L															
Potassium, total	ug/L						5500	7300	5900	6700	6000	7000	6300	6700	6600	7500
Selenium, total	ug/L	50		100												
Silver, total	ug/L						--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L						38700	57200	34300	42700	40300	44500	34600	49700	48400	50400
Strontium	ug/L						890	800	630	740	740	760	860	770	710	810
Thallium, total	ug/L	2														
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000													

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW18B															
							5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05
Aluminum, total	ug/L						260	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6	50-200		10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴			4	50	2.1	4.4	3.5	3.6	3.8	3.2	4.1	3.7	3.9	3.9	4.0	4.0	4.8	4.0	5.1	5.0
Barium, total	ug/L	2000					200	--	180	--	170	--	190	--	190	--	180	190	190	190	190	190
Beryllium, total	ug/L	4			2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5																				
Calcium, total	ug/L						113000	100000	104000	102000	94800	99500	102000	102000	96100	96900	98700	98500J	98400	99000	96200	98200
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000																			
Iron, total	ug/L		300				3400	3300	2900	2900	2600	2700	2700	2700	2600	2500	2500	2500J	2600J	2600	2500	2400
Iron, Ferrous	ug/L						--	--	--	--	--	--	--	--	2340	2230	1680	1670	2270	1730	2510	2370
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L						43400	37800	38800	39100	36000	37800	38600	39000	36500	38100	38500	37300	37100	37300	36100	36300
Manganese, total	ug/L		50				72	--	61	--	57	--	61	--	59	--	60	60	60	62	61	59
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L						2000	2000	1900	2000	2100	2400	2300	2300	2300	2300	2200	2400	2500	2500	2400	2400
Selenium, total	ug/L	50		100			--	--	--	--	--	9.7	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L						20900	18400	19600	20000	19100	20800	20600	20200	21000	20900	20000	22500	23400	22600	21900	21600J
Strontium	ug/L						1000	--	1000J	--	910	--	980J	--	1100	--	910	950	920J	1000	1100	1000
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW18B (cont'd)																		
							11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13			
Aluminum, total	ug/L	50-200																							
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Arsenic, total	ug/L	50/10 ⁴					4	50	4.0	3.8	4.0	3.9	4.2	3.6	3.8	4.1	4.3	4.1	4.1	3.7	5.0	4.1	4.1	4.2	
Barium, total	ug/L	2000							200	200	210	220	200	200	212	209	213	215	210	230	230	220	220		
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Calcium, total	ug/L						102000	99900	105000	102000	98700	101000	100000	103000	101000	101000	98900	92500	98700	93000	98300	89300			
Chromium, total	ug/L	100																							
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Copper, total	ug/L	**	1000																						
Iron, total	ug/L		300						2500	2700	2600	2600	2500	2500	2600	2580	2590	2640	2200	3000	2500	2500	2400		
Iron, Ferrous	ug/L								1330	2410	1940	--	1380	2430	1440	2500	1260	1130	1370	1280	1820	2530	1620	2000	
Lead, total	ug/L	**																							
Magnesium, total	ug/L								37500	39400	39200	39800J+	36100	37800	38300	38800	38800	37700	37600	37700	38500	36500	36900	35300	
Manganese, total	ug/L		50						59	64	63	64	60	61	62	63.9	63.8	62.2	58.8	66	69	61	61	59	
Mercury, total	ug/L	2																							
Nickel, total	ug/L																								
Potassium, total	ug/L								2400	2600	2500	2600	2500	2500	2600	2600	2600	2720	2630	2800	2900	2600	2900	2900	
Selenium, total	ug/L	50																							
Silver, total	ug/L		100						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Sodium, total	ug/L								22800	22700	24300	24800	24000	24300	25500	27200	27700	28800	30200	29800	30700	28500	30400J-	30100	
Strontium	ug/L								1100	780	870	1000	920	970	1000	937	1040	810	905	980	910	1400	890	1100	
Thallium, total	ug/L	2																							
Vanadium, total	ug/L								--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Zinc, total	ug/L		5000																						

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HUBER HEIGHTS, OHIO

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						11/13	5/14	11/14	5/15	11/15	5/16	10/16	5/17	10/17
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴		4	50	4.7	4.1	4.2	4.4	4.2	4.3	4.2	4.0	3.9
Barium, total	ug/L	2000				260	210	220	220	220	230	220	220	220
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					108000	88900	91800	96000	93300	96500	94000	91200	92500
Chromium, total	ug/L	100												
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000											
Iron, total	ug/L		300			2800	2300	2400	2600	2400	2400	2400	2400	2500
Iron, Ferrous	ug/L					2330	2250	2650	2370	2520	2360	2340	2640	2280
Lead, total	ug/L	**												
Magnesium, total	ug/L					40600	34100	35100	36800	35500	36400	36100	35700	35200
Manganese, total	ug/L		50			68	56	61	63	60	60	59	59	60
Mercury, total	ug/L	2												
Nickel, total	ug/L													
Potassium, total	ug/L					3000	2900	2900	2800	3000	3000	2900	2900	3000
Selenium, total	ug/L	50												
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					35100	28800	30200	30800	31400	32300	31400	32100	32200
Strontium	ug/L					980	740	870	870	790	890	960	950	960
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L													
Zinc, total	ug/L		5000											

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HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW19A																
							2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	3/05	5/05	11/05	5/06	11/06	5/07	11/07	5/08	
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴			4	50		11	[10]	[16]	[15]		[12]	[16]	[20]	[21]	[16]	3.0	[14]	[11]	[13]	[17]	10
Barium, total	ug/L	2000					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L						129000	124000	111000	117000	95600J	136000	133000	121000	--	141000	118000	151000	142000	142000	111000	104000	133000
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron, total	ug/L		300				6600	8100	7600	7500	81J	7400J	8900	7400	--	8000	1400	9100	9600	7000	6600	7400	
Iron, Ferrous	ug/L						--	9960	6440	2190		1540	1810	2730	--	1560	1280	1700	1900	--	1900	--	
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Magnesium, total	ug/L						40000	40500	37900	38800	22000	40400	42200	39400	--	46400	29800	45400	35600	37800J ⁴	36600	40900	
Manganese, total	ug/L		50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium, total	ug/L						12400	11700	12200	11600	4600	10900	10300	10600	--	11400	6200	8800	8600	9000	8300	8400	
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L						44900	49100	51800	50300	16200	51600	52800	51000	--	48500	27700	47600	48300	44700	42900	42500	
Strontium	ug/L		2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Thallium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW19A (cont'd)															
							11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13	11/13	5/14	11/14	5/15	11/15	5/16
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴			4	50	[12]	2.7	[11.6]	[15.1]	[16.9]	8.1	7.5	[11]	[16]	5.8	7.2	[11]	[12]	6.1	3.9	6.6
Barium, total	ug/L	2000					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L						110000	132000	113000	149000	139000	136000	132000	130000	131000	134000	137000	121000	130000	134000	139000	150000
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L						6600	1660	6760	8100	8460	7300	5000	8300	8400	5400	5300	6700	8700	6100	2500	8800
Iron, Ferrous	ug/L						1150	2560	1990	1490	920	1910	5900	5380	3170	3740	1940	2750	6640	3960	2300	7600
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L						36800	40100	38000	48000	46400	46600	44200	42000	44900	43200	39500	37100	43600	42400	41400	44800
Manganese, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L						8500	7500	12800	10100	10300	9600	11900	9300	11100	8000	11000	9000	12800	8500	11000	8500
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L						43100	38200	39400	34500	46400	36600	47500	52400	58200	32600	55100	45100	63600	38100	55900	41900
Strontium	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW19A (cont'd)		
							10/16	5/17	11/17
Aluminum, total	ug/L						--	--	--
Antimony, total	ug/L	6			10/5		--	--	--
Arsenic, total	ug/L	50/10 ⁴			4	50	[12]	--	8.7
Barium, total	ug/L	2000					--	--	--
Beryllium, total	ug/L	4			2	1*	--	--	--
Cadmium, total	ug/L	5					--	--	--
Calcium, total	ug/L						137000	102000	141000
Chromium, total	ug/L	100					--	--	--
Cobalt, total	ug/L						--	--	--
Copper, total	ug/L	**		1000			--	--	--
Iron, total	ug/L			300			9700	280	9200
Iron, Ferrous	ug/L						7400		4980
Lead, total	ug/L	**					--	--	--
Magnesium, total	ug/L						41900	26000	40400
Manganese, total	ug/L						--	--	--
Mercury, total	ug/L	2					--	--	--
Nickel, total	ug/L						--	--	--
Potassium, total	ug/L						11800	5000	10600
Selenium, total	ug/L	50					--	--	--
Silver, total	ug/L			100			--	--	--
Sodium, total	ug/L						56100	21700	55800
Strontium	ug/L						--	--	--
Thallium, total	ug/L	2					--	--	--
Vanadium, total	ug/L						--	--	--
Zinc, total	ug/L			5000			--	--	--

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TABLE M-2.
METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW20A															
						2/02	5/02	8/02	8/02 Dup.	11/02	5/03	11/03	5/04	11/04	3/05	5/05	11/05	5/06	11/06	5/07	11/07
Aluminum, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6	50-200		10/5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 ⁴		4	50	9.7	8.3	9.5	8.8	[13]	8.9	[12]	9.3	[15]	[12]	[12]	[13]	8.3	9.8	8.6	[14]
Barium, total	ug/L	2000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium, total	ug/L	4				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					166000	155000	154000	155000	158000	106000J	178000	174000	162000	--	158000	169000	172000	161000	134000	138000
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			13500	13700	12700	12600	13600	8100J	13000J	14300	11700	--	11700	11500	12800	30400R	9600	9200
Iron, Ferrous	ug/L					--	3060	10920	--	1630	2950	2020	1510	5160	--	2850	2250	2420	1640	--	1100
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					36800	36600	37900	38200	35900	22700	38100	42000	36100	--	40700	39100	40500	126000R	38300J+	35000
Manganese, total	ug/L		50			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					10200	10100	11000	11000	13200	6800	10000	9500	10100	--	10300	10900	7200	8100	8500	8200
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					35400	41000	44000	44200	48200	23500	42100	51400	51300	--	47400	50200	35700	728000R	38600	35000
Strontium	ug/L		2			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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TABLE M-2.
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POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	MW20A (cont'd)																
							5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/5	5/13	11/13	5/14	11/14	5/15	11/15	
Aluminum, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴			4	50		10	[11]	8.2	[11.1]	8.2	[10.6]	[11.0]J+	[12]	[11]	[15]	8.3	[12]	9	10	8.7	[11]
Barium, total	ug/L	2000					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Beryllium, total	ug/L	4					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L						147000	140000	110000	141000	128000	109000	125000	164000	138000	149000	113000	156000	134000	151000	130000	145000	
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron, total	ug/L						11000	9400	7290	9530	8000	6410	7900	10400	9600	9400	7800	10000	8800	9400	9000	8700	
Iron, Ferrous	ug/L						3090	3210	2700	900	1460	1640	7820	1770	6020	7800	5620	1600	2180	3210	6800	8840	
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Magnesium, total	ug/L						38300	36100	28300	35800	31100	25700	34800	43000	37300	38900	30900	37700	37300	42200	37000	39000	
Manganese, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Mercury, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium, total	ug/L						8100	8800	6240	7970	6260	6030	6100	8300	6900	7800	6000	8300	7100	8600	6700	8300	
Selenium, total	ug/L	50					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Silver, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L						33600	34900	29200	36600	29600	32900	34800	44900	38000	41000	32500	46700	43600	53000	45400	48200	
Strontium	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L						5000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4} Risk ¹	ARARS ²	MW20A (cont'd)			
						5/16	10/16	5/17	11/17
Aluminum, total	ug/L		50-200			--	--	--	--
Antimony, total	ug/L	6		10/5		--	--	--	--
Arsenic, total	ug/L	50/10 ⁴		4	50	9.2	[11]	6.8	9.0
Barium, total	ug/L	2000							
Beryllium, total	ug/L	4		2	1*				
Cadmium, total	ug/L	5							
Calcium, total	ug/L					140000	149000	91600	144000
Chromium, total	ug/L	100				--	--	--	--
Cobalt, total	ug/L					--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--
Iron, total	ug/L		300			9800	9900	5700	8600
Iron, Ferrous	ug/L					6460	7320	5680	6320
Lead, total	ug/L	**				--	--	--	--
Magnesium, total	ug/L					40300	42600	25900	39200
Manganese, total	ug/L					--	--	--	--
Mercury, total	ug/L	2				--	--	--	--
Nickel, total	ug/L					--	--	--	--
Potassium, total	ug/L					7500	8900	6600	8100
Selenium, total	ug/L	50				--	--	--	--
Silver, total	ug/L		100			--	--	--	--
Sodium, total	ug/L					36900	47300	31300	41900
Strontium	ug/L					--	--	--	--
Thallium, total	ug/L	2				--	--	--	--
Vanadium, total	ug/L					--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--

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METALS RESULTS
POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	P859								P862							
							2/95	5/95	5/95 Dup.	7-8/95	12/95	12/95 Dup.	5/96	11/96	5/97	11/97	2/95	2/95 Dup.	2/95 Dup.	5/95	7-8/95	
Aluminum, total	ug/L		50-200				--	--	--	--	--	--	--	--	--	--						
Antimony, total	ug/L	6			10/5		--	--	--	--	--	--	--	--	--	--						
Arsenic, total	ug/L	50/ 10^4			4	50																
Barium, total	ug/L	2000				2																
Beryllium, total	ug/L	4																				
Cadmium, total	ug/L	5																				
Calcium, total	ug/L																					
Chromium, total	ug/L	100																				
Cobalt, total	ug/L																					
Copper, total	ug/L	**	1000																			
Iron, total	ug/L		300																			
Iron, Ferrous	ug/L																					
Lead, total	ug/L	**																				
Magnesium, total	ug/L																					
Manganese, total	ug/L		50																			
Mercury, total	ug/L	2																				
Nickel, total	ug/L																					
Potassium, total	ug/L																					
Selenium, total	ug/L	50		100																		
Silver, total	ug/L																					
Sodium, total	ug/L																					
Strontium	ug/L																					
Thallium, total	ug/L	2																				
Vanadium, total	ug/L																					
Zinc, total	ug/L		5000																			28.4

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POWELL ROAD LANDFILL
HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	10^{-4}	Risk ¹	ARARS ²	P865							P868			P869							
							2/95	5/95	7-8/95	12/95	5/96	11/96	5/97	11/97	2/95	5/95	7-8/95	5/95	7-8/95	12/95	5/96	11/96	5/97	11/97
Aluminum, total	ug/L	50-200					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	6					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 ⁴			4	50																		
Barium, total	ug/L	2000					245.0	3.8	2.5	--	--	--	--	--	92.7		103	103	75.2	--	--	--	--	--
Beryllium, total	ug/L	4						239	261	--	--	--	--	--					--	--	--	--	--	--
Cadmium, total	ug/L	5																						
Calcium, total	ug/L						96300	94600	107000	--	--	--	--	--	95000	77800	83200	72800	52400	--	--	--	--	--
Chromium, total	ug/L	100																						
Cobalt, total	ug/L																							
Copper, total	ug/L	**	1000																	27.2	--	--	--	--
Iron, total	ug/L		300					2600	3060	2940	--	--	--	--				183	640	702	--	--	--	--
Iron, Ferrous	ug/L							--	--	--								--	--	--				
Lead, total	ug/L	**																						
Magnesium, total	ug/L																							
Manganese, total	ug/L		50																					
Mercury, total	ug/L	2																						
Nickel, total	ug/L																							
Potassium, total	ug/L																							
Selenium, total	ug/L	50																						
Silver, total	ug/L		100																					
Sodium, total	ug/L																							
Strontium	ug/L	2																						
Thallium, total	ug/L																							
Vanadium, total	ug/L																							
Zinc, total	ug/L		5000																					

Note: Blank spaces represent non-detect values.

-- = Dash represents no analysis.

{ } = indicates values above MCL.

J = Estimated value.

UJ = Estimated nondetection.

¹ Risk-based cleanup levels from Powell Road Landfill ROD, Table 21.

² Chemical specific Applicable or Relevant and Appropriate Requirements, Powell Road Landfill ROD, Table 22.

³ Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pumping duplicate.

⁴ MCL for arsenic changed to 10 ug/L effective 2/22/02.

* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L.

The current MCL is 4 ug/L.

** Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW02A										
				Feb-95	May-95	Aug-95	Aug-95 dup.	Dec-95	May-96	Nov-96	May-97	Nov-97	Sep-98	May-99
Alkalinity	mg/l												447J	
Ammonia (as N)	mg/l			0.55									0.491	
Biological Oxygen Demand	mg/l			<5										
Chemical Oxygen Demand	mg/l			<20										
Chloride	mg/l			27									17	
Cyanide	ug/l	200		<0.75	<1.4	<1.4J	<1.4J							
Dissolved Oxygen	mg/l												0.06	
Nitrate	mg/l	10												
Nitrate + Nitrite	mg/l	10		<0.05									<0.1R	
Oil and Grease	mg/l			<5.2										
Ortho-Phosphate (Total)	mg/l			<0.02										
Oxidation Reduction Potential	mV												4	
Phosphorus (Total)	mg/l													
pH	S.U.	6.5-8.5		6.75	7.22	6.76		7.04	6.87	6.92	6.97	6.95	7.07	6.98
Specific Conductance	um/cm			720	1460	1303		954	780	823	910	921	1037	807
Sulfate	mg/l	250		46										45.9
Sulfide	mg/l													
Total Dissolved Solids	mg/l	500		650										2.3
Dissolved Organic Carbon	mg/l													2.3
Total Organic Carbon	mg/l			3										
Total Suspended Solids	mg/l			<10										
Ethane	ug/l												<16	
Ethene	ug/l												<15	
Methane	ug/l												870	

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW02AR																															
				May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06														
Alkalinity	mg/l			578	533	418	376	363	412	465	341	371	408	369	317	436	387	370	284	369	317	345	375												
Ammonia (as N)	mg/l			0.13	0.11	0.075	<0.020	0.027	<0.020	<0.020	0.025	<0.020	<0.020	<0.020	<0.020	<0.020	0.090	<0.020	0.050	<0.020	0.15	<0.020													
Biological Oxygen Demand	mg/l			<10		<10		<10		<10		<10		<10		<10		15.7	<10	<10	<10	<10	<10												
Chemical Oxygen Demand	mg/l																																		
Chloride	mg/l	250		21.6	31.3	38.8	37.8	33.2	29.8	30.2	22.3	25.1	28.8	27.8	34.6	20.9	16.0	24.7	15.9	32.2	17.6	30.2	17.2												
Cyanide	ug/l			<0.02				<0.02				<0.02		<0.02		<0.02																			
Dissolved Oxygen	mg/l							0.71	0.00	0.00	0.00	0.00	0.00	0.86R	0.10	0.3	0.2	0.0	0.06	2.9R	0.64	0.17	0.49	0.34	0.43										
Nitrate	mg/l	10			<0.050				0.18		0.24		1.0		<0.050																				
Nitrate + Nitrite	mg/l	10			1			<0.05			0.21		0.22		1.5		<0.050	<0.050	<0.050	0.24	<0.050	0.58	<0.050	0.72	<0.050	0.22									
Oil and Grease	mg/l			<5			<5			<5			<5		<5		<5																		
Ortho-Phosphate (Total)	mg/l																																		
Oxidation Reduction Potential	mV																																		
Phosphorus (Total)	mg/l			<0.02			<0.02		0.022		<0.01		<0.01		-350R	-41.1	38.6	11.2	12.2	50.4	25.8	20.9	10.9	-40.7	1.2										
pH	S.U.	6.5-8.5		6.43	6.7	6.80	6.90	6.92	6.91	6.83	6.87	6.61	7.05	6.87	6.82	6.90	6.61	6.46	6.61	6.91	7.19	6.95	6.83												
Specific Conductance	um/cm			1186	1230	1190	989	965	926	938	1170	1180	1044	941	1140	1170	1208	849	1191	1128	1170	925	985												
Sulfate	mg/l	250		142	170	189	136	260	201	129	206	209	167	141	232	217	312	255	381	286	310	130	161												
Sulfide	mg/l			<2	<2.0	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0																	
Total Dissolved Solids	mg/l	500		763		732		850		645		805		601		822		836		859		776		812		751		858		630		602			
Dissolved Organic Carbon	mg/l			2.4	4.2	1.4	3.7	3.6	4.8	5.8	2.5	3.2	5.1	2.5																					
Total Organic Carbon	mg/l			2.2	2.6	<1.0	2.6	3	3.8	3.5	2.1	3.0	3.0	2.1	<1.0	2.9	<1.0	2.2	1.9	3.3	<1.0	2.5	1.9												
Total Suspended Solids	mg/l																																		
Ethane	ug/l			<4	<4.0	<4.0	<4,000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<19	<4J	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4					
Ethene	ug/l			<3	<3.0	<3.0	<3,000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<9.8	<3J	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3				
Methane	ug/l			16	260	39	4.5	4	<2	<2	<2	<2	<2	<2	<2	<2	7.6	140	330	33J	<2	2.2	<2	13	<2										

E = Concentration exceeded the calibration range of the instrument.

D = Analytical result after sample dilution.

CONTINUED
ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW02AR (cont'd)																					
				Nov-06	May-07	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	May-16	Oct-16	May-17	Oct-17	
Alkalinity	mg/l			326	395	402	458	420	473	512	374	369	456	417	534	469	534	546	554	584B	590	669B J+	541	623	
Ammonia (as N)	mg/l			<0.020	<0.020	0.28	0.050	0.097	0.044	0.123	<0.20	<0.020	0.049	0.066	<0.20	0.051	<0.020	0.032	<0.020	0.110	<0.020 UJ	0.200	0.330	0.43	
Biological Oxygen Demand	mg/l																								
Chemical Oxygen Demand	mg/l			<10	<10	<10 UJ	<10	<10	<10	<10	<10	<10	<10	<10	11	<10UJ	<10	13.1	10.3	10.6	10.3	<10	<10	<10	
Chloride	mg/l	250	200	26.9	13.9	24.6	29.0	32.6	36.9	35.1	21.2	32.2	19.6	38.8	20.8	25.7	22.0	40.6	30.2	40.0	21.9	34.0	71.6	59.9	
Cyanide	ug/l																								
Dissolved Oxygen	mg/l			0.32	0.18	0.43	0.11		0.00	0.06	3.49	0.00	0.00	0.00	0.29	0.00	0.00	0.04	0.37	0.01	0.00	0.00	0.00	0.02	
Nitrate	mg/l	10																							
Nitrate + Nitrite	mg/l	10		0.14	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	2.1	<0.050	<0.050	<0.050	0.59	<0.050	<0.050	0.37	<0.050	<0.050	<0.050	<0.050	<0.050		
Oil and Grease	mg/l																								
Ortho-Phosphate (Total)	mg/l																								
Oxidation Reduction Potential	mV			30.5	8.1	-28.4	114.1	-11.8	72.6	7	89	62	137	-37	36.5	26.5	23.8	76.3	-19.6	-13.8	30.4	23	-5.5	14.9	
Phosphorus (Total)	mg/l			0.081	0.042	<0.010	<0.010	0.0162	<0.010	<0.010 UJ	<0.010	<0.010	<0.010	<0.010	0.016	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
pH	S.U.	6.5-8.5		6.60	7.03	7.05	6.34	6.70	5.43	6.54	7.32	6.89	6.87	6.94	6.87	6.83	6.85	6.62	6.80	6.84	6.68	6.52	6.72	6.63	
Specific Conductance	um/cm			977	1008	887	960	1050	903	1159	891	978	954	1033	1085	1037	1118	1274	1281	1268	1177	1327	1285	1204	
Sulfate	mg/l	250	500	156	152	160	180	159	165	156	123 EJ	159	126	164	142	118	92	75.1 J	71.4	60.5	69.3	33.7	28.1	32.3	
Sulfide	mg/l																								
Total Dissolved Solids	mg/l			598	710	684	743	621	754	760	599	642	642	592	811	659	630	700	714	657	687	666	665	720	
Dissolved Organic Carbon	mg/l				1.3	1.5	<1.0	1.7	2.5	2.9	2.0	1.7	<1.0	1.3	2.0	1.9	1.4	1.2	1.1	2.6	2.1	1.9	2.3	1.9	2.8
Total Organic Carbon	mg/l																								
Total Suspended Solids	mg/l																								
Ethane	ug/l			<4	<4	<4	<4	<7.5	<15	<15	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4		
Ethene	ug/l			<3	<3	<3	<3	<7.5	<15	<15	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3		
Methane	ug/l			<2	120	<2	3.6	11	32	51	<2	3.5	54	19	<2	87	46	41	37	56	120	32	130	96J	

E = Concentration exceeded the calibration range of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW02B																				
				Sep-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05			
Alkalinity	mg/l				342J	330	318	323	343	344	343	317	284	294	271	279	237	289	345	302	247	285	237	
Ammonia (as N)	mg/l				0.129	0.03	<0.020	<0.020	<0.020	0.03	<0.020	0.055	<0.02	<0.02	<0.020	<0.020	<0.020	0.10	0.04	<0.020	0.039			
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l																							
Chloride	mg/l																							
Cyanide	ug/l	200																						
Dissolved Oxygen	mg/l																							
Nitrate	mg/l	10																						
Nitrate + Nitrite	mg/l	10																						
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV																							
Phosphorus (Total)	mg/l																							
pH	S.U.	6.5-8.5			7.64	7.42	6.91	7.13	7.14	6.85	7.24	6.97	7.12	7.04	6.90	7.20	7.11	7.05	7.54	6.97	7.03	6.81	7.25	7.30
Specific Conductance	um/cm																							
Sulfate	mg/l	250																						
Sulfide	mg/l																							
Total Dissolved Solids	mg/l	500																						
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l																							
Total Suspended Solids	mg/l																							
Ethane	ug/l																							
Ethene	ug/l																							
Methane	ug/l																							

E = Concentration exceeded the calibration range of the instrument.

D = Analytical result after sample dilution.

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TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW02B (cont'd)																		
				Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	
Alkalinity	mg/l			286	301	278	302	269	342	252	297	325	314	274	287	314	316	301	309	278B	235	
Ammonia (as N)	mg/l			0.021	<0.020	0.033	0.100	0.090	0.033	0.048	0.028	0.035	<0.020	0.066	<0.020	0.062	0.035	0.047	<0.020	<0.020	0.047	
Biological Oxygen Demand	mg/l																					
Chemical Oxygen Demand	mg/l																					
Chloride	mg/l	250		<10	<10	<10	<10	<10 UJ	<10	<10	<10	<10	<10	<10	<10	<10UJ	<10	16.3	10.9	<10	<10	
Cyanide	ug/l			34.9	30.1	33.3	32.1	35.7	38.0	35.6	39.8	45.1	48.7	50.9	49.9	50.2	50.9	40.2	35.4	44.2	39.8	
Dissolved Oxygen	mg/l																					
Nitrate	mg/l	10																				
Nitrate + Nitrite	mg/l	10																				
Oil and Grease	mg/l																					
Ortho-Phosphate (Total)	mg/l																					
Oxidation Reduction Potential	mV			-66.0	-92.5	-40.9	-97.6	-91.9	-79.4	-98.2	-66.7	-101.0	-100.0	-95	-18	-132	-61	-40.2	-71.2	-63.3	-86.9	
Phosphorus (Total)	mg/l			0.16	0.038	<0.010	<0.010	<0.010	<0.010	0.0686	<0.010	<0.010 UJ	<0.010	0.95	<0.010	0.037	<0.010	<0.010	<0.010	<0.010	0.014	
pH	S.U.	6.5-8.5		7.50	7.02	7.15	7.07	7.26	6.82	6.94	5.82	6.91	7.35	7.17	7.18	7.21	7.23	7.11	7.20	7.12	7.15	
Specific Conductance	um/cm			764	720	738	699	677	696	784	634	778	794	752	712	802	798	743	831	832	785	
Sulfate	mg/l	250		46.1	44.8	51.3	40.8	42.1	55.0	51.3	47.3	51.8	56.4	60.6	59.3	58.8	65.5	62.9	61.6	62.1	53.8	
Sulfide	mg/l																					
Total Dissolved Solids	mg/l	500		429	429	374	408	432	463	329	413	483	448	438	393	409	511	449	401	435	435	453
Dissolved Organic Carbon	mg/l																					
Total Organic Carbon	mg/l			<1.0	<1.0	1.8	<1.0	<1.0	<1.0	1.7	1.5	1.6	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	1.5	1.0	1.1
Total Suspended Solids	mg/l																					
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			2.4	4.1	6.2	8.3	<2	2.9	6.1	10	12	15	15	13	18	<2	2.6	2	<2	3.3	6.6

E = Concentration exceeded the calibration range of the instrument.

D = Analytical result after sample dilution.

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ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW02B (cont'd)			
				Oct-16	May-17	May-17 DUP	Oct-17
Alkalinity	mg/l			326B	303	296	302
Ammonia (as N)	mg/l			<0.020 UJ	<0.020	<0.020	<0.020
Biological Oxygen Demand	mg/l						
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10
Chloride	mg/l	250		45.4	49.5	49.0	47.7
Cyanide	ug/l		200				
Dissolved Oxygen	mg/l			0.23	0.03		0.07
Nitrate	mg/l	10					
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l						
Ortho-Phosphate (Total)	mg/l						
Oxidation Reduction Potential	mV			-56.2	-88.0		-70.6
Phosphorus (Total)	mg/l			<0.010	<0.010	<0.010	<0.010
pH	S.U.	6.5-8.5		7.05	7.20	7.20	7.14
Specific Conductance	um/cm			862	865	865	764
Sulfate	mg/l	250		45.2	64.0	64.1	54.8
Sulfide	mg/l						
Total Dissolved Solids	mg/l	500		399	445	440	429
Dissolved Organic Carbon	mg/l						
Total Organic Carbon	mg/l			<1.0	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l						
Ethane	ug/l			<4	<4	<4	<4.0
Ethene	ug/l			<3	<3	<3	<3.0
Methane	ug/l			<2	13	10	4J

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW04A									
				Feb-95	May-95	Aug-95	Dec-95	May-96	Nov-96	May-97	Nov-97	Sep-98	May-99
Alkalinity	mg/l											598J	545J
Ammonia (as N)	mg/l			8.4								8.93J	9.09
Biological Oxygen Demand	mg/l			8									
Chemical Oxygen Demand	mg/l			24									
Chloride	mg/l			83									
Cyanide	ug/l	200		<2.2	<1.4	<1.4J						88.7	91.3
Dissolved Oxygen	mg/l											0.07	
Nitrate	mg/l	10											
Nitrate + Nitrite	mg/l	10		<0.05								0.191J	0.183J
Oil and Grease	mg/l			<5.3									
Ortho-Phosphate (Total)	mg/l			<0.02									
Oxidation Reduction Potential	mV											-125	
Phosphorus (Total)	mg/l												
pH	S.U.	6.5-8.5		6.82	6.99	6.92	6.95	6.85	6.96	6.86	6.99	6.75	
Specific Conductance	um/cm			1149	1394	1346	1295	1251	1064	1165	1186	1265	1178
Sulfate	mg/l	250		9.8								47.6	47.5
Sulfide	mg/l												
Total Dissolved Solids	mg/l	500		650								8	8.2
Dissolved Organic Carbon	mg/l											9.3	8.1
Total Organic Carbon	mg/l			7								<16	<16
Total Suspended Solids	mg/l			30								<15	<15
Ethane	ug/l											3800	3800
Ethene	ug/l												
Methane	ug/l												

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW04AR																		
				May-00	Aug-00	Nov-00	11/00 dup.	Feb-01	May-01	5/01 dup.	Aug-01	8/01 Dup.	Nov-01	Feb-02	May-02	5-02 dup.	Aug-02	Nov-02	May-03	Nov-03	May-04	
Alkalinity	mg/l			604	540	845	743	588	477	543	651	622	579	502	472	468	575	504	378	470	448	
Ammonia (as N)	mg/l			11.4	13.7	14.4	15.0	8.9	11.6	11.5	19.2	19.2	16.5	13.5	13.0	12.4	28.2	25.3	6.7	13.5	9.6	
Biological Oxygen Demand	mg/l																					
Chemical Oxygen Demand	mg/l			32.1		41.5	47.8		20.2	18.9			26.2		33.2	30.0		27.1	<10	11.0	28.9	
Chloride	mg/l	250		150	174	204	202	63.4	127	128	155	155	136	120	126	126	165	143	126	133	89.7	
Cyanide	ug/l		200	<0.02		<0.02	<0.02		<0.02	<0.02			<0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		
Dissolved Oxygen	mg/l					0.00	0.00		0.00	0.00		0.00		0.00	2.09R		0.04	0.30	0.10	0.0	0.03	
Nitrate	mg/l	10				<0.050			0.46			0.13	0.13				<0.050					
Nitrate + Nitrite	mg/l	10				<0.05			<0.05			0.20	0.20		0.099	0.14	<0.05	<0.05	0.22	<0.050	<0.050	<0.050
Oil and Grease	mg/l					<5			<5			<5			<5		<5	<5	<5	<5UJ	<5	
Ortho-Phosphate (Total)	mg/l																					
Oxidation Reduction Potential	mV																					
Phosphorus (Total)	mg/l			0.08		0.083	0.13		0.039	0.04			0.021		0.046	0.045		0.063	0.051	0.078	<0.01	
pH	S.U.	6.5-8.5		6.62	6.65	6.72		6.44	6.67		6.76		6.81	6.72	6.56		6.74	6.74	6.83	7.33	6.60	
Specific Conductance	um/cm			1404	1630	1760		1430	1140		1500		1570	1490	1590		1615	1504	1360	1463	1531	
Sulfate	mg/l	250		15.9	14	11.4	11.0	83.4	37.2	37.0	41.1	41.2	39.6	37.5	131.0	125.0	51.1	58.0	142.0	81.6	336	
Sulfide	mg/l			<2	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		
Total Dissolved Solids	mg/l	500		821		880	861		829	796			810		623	635		788	767J	832	986	
Dissolved Organic Carbon	mg/l			10.2	16.7	14.9	15.3	7.1	10	10.5	13.8	15	13.8	7.9	7.1	7.8	14.6	14.4				
Total Organic Carbon	mg/l			10.1	14	14.9	15.0	7.2	10.4	10.5	13.4	13.3	12.3	8.2	8.8	8.5	12.6	11.7	3.5	8.7	4.9	
Total Suspended Solids	mg/l																					
Ethane	ug/l			<4	<4	<4	<4	<4.000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<47	<19		
Ethene	ug/l			7.5	7.5	6.7	8.3	<3.000	<3	3.5	13	8.5	<3	<3	<3	<3	<3	<3	<25	<9.8		
Methane	ug/l			3200E	4200E	4000E	4600E	680	1100	1200	5300E	5000E	3700E	350	290	300	270	330	170	510	710	
				3100D	4200D	4200D	5600D				5000D	6300D	2700D									

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

CONTINUED
ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW04AR (cont'd)																				
				Nov-04	11/04 Dup.	Mar-05	May-05	Nov-05	11/05-Dup	May-06	5/06-Dup	11/06	11/06-Dup	May-07	Nov-07	11/07 Dup	May-08	Nov-08	11/08 Dup	May-09	5/09 Dup	Nov-09	11/09 Dup	
Alkalinity	mg/l			529	438		415	450	503	412	442	467	486	472	458	444	467	537	578	439	436	382	376	
Ammonia (as N)	mg/l			17.3	17.7		8.8	9.3	9.1	5.9	5.7	5.2	5.1	7.2	10.0	9.8	6.0	12.5	11.8	7.44	7.63	5.52	5.15	
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			<10	28.0		22.8J	24.8J	23.6J	<10	17.5	19.8	<10	15.2J+	25.3J+	20.7J+	<10	16.7 J-	21.8 J-	11.1	14.2	<10.0	<10.0	
Chloride	mg/l			158	150		92.3	113	104	110	118	96.8	93.3	90.4	125	124	78.9	130	132	48	47	35.8	36.5	
Cyanide	ug/l	200																						
Dissolved Oxygen	mg/l						0.12			0.14	0.13	0.51		0.19		0.13	0.28		0.27	0.37		1.44		
Nitrate	mg/l	10																						
Nitrate + Nitrite	mg/l	10		<0.050	<0.050		<0.050	0.13	0.13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.32	0.29	0.085	0.084	
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			-71.5			-124.3	-152.3	-65.3	-69.0		-67.6		-80.4	-127.1		-56.2	-183.3		-99.9		-99.2		
Phosphorus (Total)	mg/l			0.091	0.12		0.095	0.078	0.061	0.099	0.085	0.022	0.044	0.058	0.074	0.061	<0.010	<0.010	<0.010	<0.010	0.0162	<0.0100		
pH	S.U.	6.5-8.5		6.69		6.80	6.71	6.83		6.77		7.20		6.74	6.82		6.70	6.94		6.78		6.77		
Specific Conductance	um/cm			1264				1534	1454		1365		1293		1240	1074		1353	1203		1192		1144	
Sulfate	mg/l	250		43.0	42.4			248.0	145.0	133.0	96.7	98.6	117.0	113	127	30.1	24.4	135	10.6	10.9	170	170	222	
Sulfide	mg/l																							
Total Dissolved Solids	mg/l	500		795	803		935	797	801	765	797	814	789	725	682	692	752	741	716	846J+	807J+	748	760	
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l			10.8	10.7		6.8	6.4	4.5	5.5	5.5	5.0	4.8	5.0	8.6	8.8	6.1	5.2	5.5	4.0	3.9	3.7	4.1	
Total Suspended Solids	mg/l																							
Ethane	ug/l			<19	<19		<19	<4	<4	<4	<4	<4	<9.4	<9.0	<4	<4	<4	<4	<150	<30	<15	<15		
Ethene	ug/l			<9.8	<9.8		<9.8	<3	<3	<3	<3	<3	<4.9	<7.5	<3	<3	<3	<3	<150	<30	<15	<15		
Methane	ug/l			140	180			720	37	34	370E	9.8	11	230	520	130	91	1100	420E	410E	160	100	44	
											710D							470D	340D					

CONTINUED
ON NEXT PAGE

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW04AR (cont'd)																				
				May-10	5/10 Dup	Nov-10	Nov-10 Dup	May-11	May-11 Dup	Oct-11	Oct-11 Dup	May-12	May-12 Dup	Nov-12	Nov-12 Dup	May-13	May-13 Dup	Nov-13	Nov-13 Dup	May-14	Nov-14 Dup	May-15		
Alkalinity	mg/l			413	418	586	530	373	372	471	459	539	549	502	530	447	480	496	477	573	537	528	464	
Ammonia (as N)	mg/l			4.83	4.56	12.20	12.90	2.4J-	2.0	3.2	3.2	7.2	7.9	8.6	8.3	4.7	4.2	3.9	3.9	8.6	8.6	8.8	6.7	
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			14.9	12.0	16.9	17.3	<10.0	<10	11.1	12.4	10.7	15.2	20.6(J-)	<10	16.8	13.9	15.6	10.5	17.0	24.5	23.2	16.2	
Chloride	mg/l	250		62.3	61.6	98.3	98.6	30.8J-	30.6	82.1	82.9	114	96.6	112	105	50.5	53.1	54.4	54.4	96.1	131	126	84.9	
Cyanide	ug/l			200																				
Dissolved Oxygen	mg/l					0.00			1.53		0.03		0.00		0.00		0.63		0.00		0.02	0.02		0.09
Nitrate	mg/l	10																						
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050	<0.050	0.700	0.710	0.69	0.67	<0.050	<0.050	0.62	0.62	1.00	1.00	0.31	0.31	0.08	<0.050	<0.050	0.10	
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			-64.4																				
Phosphorus (Total)	mg/l			<0.0100	<0.0100	0.0916	0.0575	<0.010	<0.010	0.29	<0.010	0.035	0.023	0.028	0.016	<0.010	<0.010	<0.010	<0.010	<0.010	0.043	0.033	0.030	
pH	S.U.	6.5-8.5		6.76		6.64		7.01		6.84		6.69		6.75		6.90		6.79		6.82		6.75		6.84
Specific Conductance	um/cm			862		1252				1161		1335		1294		1163		1165		1321		1457		1317
Sulfate	mg/l	250		88.3	87.3	<5.0 R	<5.0 R	66.7J-	67.0	38.8	38.1	18.7	16.2	41.8	38.1	68.4	71.6	77.0	77.2	17.3	8.2	<5	31.2	
Sulfide	mg/l																							
Total Dissolved Solids	mg/l	500		623	619	710	701	499	479	644	651	801	732	619	606	745	746	685	698	626	690	680	639	
Dissolved Organic Carbon	mg/l					2.4	2.6	4.9	4.8	2.7	2.9	2.3	2.2	3.5	3.7	5.3	5.3	2.7	2.7	3.5	3.3	5.5	5.6	4.4
Total Organic Carbon	mg/l																							
Total Suspended Solids	mg/l																							
Ethane	ug/l			<60	<60	<150	<150	<160	<160	<4	<4	<4	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	
Ethene	ug/l			<60	<60	<150	<150	<120	<120	<3	16	<3	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	
Methane	ug/l			260	190	500	1000	190	120	220	390	2200	2200	490	370	<20	<20	150	120	350	320	310	270	

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

CONTINUED
ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW04AR (cont'd)							
				Nov-15	Nov-15 Dup	May-16	Oct-16	Oct-16 Dup	May-17	Nov-17	Nov-17 Dup.
Alkalinity	mg/l			583B	606B	573	486B	571B	555	585	570
Ammonia (as N)	mg/l			8.9	8.5	6.7	5.9	7.4	6.3	8.7	8.3
Biological Oxygen Demand	mg/l										
Chemical Oxygen Demand	mg/l			15.5	15.2	11.6J+	22.8	16.2	<10.0	<10.0	<10.0
Chloride	mg/l	250		129	130	101	79.7	78.7	86.1	94.4	96.2
Cyanide	ug/l		200								
Dissolved Oxygen	mg/l			0.00		0.01	0.00		0.00	0.01	
Nitrate	mg/l	10									
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l										
Ortho-Phosphate (Total)	mg/l										
Oxidation Reduction Potential	mV			-86.5		-99.7	-61.7		-101.6	-69.2	
Phosphorus (Total)	mg/l			0.083	0.049	0.019	0.032	0.032	0.036	0.015	
pH	S.U.	6.5-8.5		6.86		6.70	6.51		6.75	6.86	6.86
Specific Conductance	um/cm			1563		1377	1390		1410	1207	1207
Sulfate	mg/l	250		<5	5.1	16.3	<25	<25	26.6	<25	<25
Sulfide	mg/l										
Total Dissolved Solids	mg/l	500		753	754	717	612	629	612	631B	680B
Dissolved Organic Carbon	mg/l										
Total Organic Carbon	mg/l			6.6	6.6	5.5	4.4	4.4	3.8	4.5	4.6
Total Suspended Solids	mg/l										
Ethane	ug/l			<40	7.9	<40	<40	<40	<40	<44	<44
Ethene	ug/l			<30	<3	<30	<30	<30	<30	<33	<33
Methane	ug/l			2500	2400	560	<20	300	83	180	260

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW04BR									
				Feb-95	May-95	Aug-95	Dec-95	May-96	Nov-96	May-97	Nov-97	Sep-98	May-99
Alkalinity	mg/l											327J	332J
Ammonia (as N)	mg/l											0.402J	0.294
Biological Oxygen Demand	mg/l												
Chemical Oxygen Demand	mg/l												
Chloride	mg/l												
Cyanide	ug/l	200	250	<0.75	<1.4	<1.4J						51.1	52.1
Dissolved Oxygen	mg/l											0.58	
Nitrate	mg/l	10										<0.1R	<0.1R
Nitrate + Nitrite	mg/l	10											
Oil and Grease	mg/l												
Ortho-Phosphate (Total)	mg/l												
Oxidation Reduction Potential	mV											-7	
Phosphorus (Total)	mg/l												
pH	S.U.	6.5-8.5		7.66	7.57	7.55	7.16	7.23	7.04	7.38	7.44	7.28	7.43
Specific Conductance	um/cm			681	783	756	788	800	753	776	825	764	741
Sulfate	mg/l	250										44	44.1
Sulfide	mg/l												
Total Dissolved Solids	mg/l	500										<1	<1
Dissolved Organic Carbon	mg/l											1.6	2.3
Total Organic Carbon	mg/l												
Total Suspended Solids	mg/l												
Ethane	ug/l											<16	<16
Ethene	ug/l											<15	<15
Methane	ug/l											80	78

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW04BRR																			
				May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05			
Alkalinity	mg/l			302	284	308	334	315	320	280	272	284	289	262	226	262	341	206	266	305			
Ammonia (as N)	mg/l			0.13	0.12	1.9	0.029	0.14	0.027	0.14	0.085	0.13	0.12	<0.020	0.073	0.046	0.10	0.17	0.17	0.079			
Biological Oxygen Demand	mg/l			<10		<10		<10		<10		13.0		<10	<10	<10	<10	<10	<10	<10			
Chemical Oxygen Demand	mg/l				46.7	48.2	51.1	52	54.7	56.3	60.8	62.8	68.1	63.7	65.9	65.7	51.5	49.4	53.6	51.5			
Chloride	mg/l	250		<0.02				<0.02			<0.02		<0.02		<0.02		<0.02		51.3	50.4			
Cyanide	ug/l			200															2.8R	54.2			
Dissolved Oxygen	mg/l					0.00	0.00	0.00	0.00	0.00	0.00	1.54R	0.03	0.6	0.1	0.0	0.04	0.15	0.16	0.11			
Nitrate	mg/l	10				<0.050		<0.050		<0.050		<0.05		<0.050		<0.05		0.15	0.16	0.17	0.07		
Nitrate + Nitrite	mg/l	10				<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.050	<0.050		
Oil and Grease	mg/l			<5		<5		<5		<5		<5		<5		<5		<5		<5			
Ortho-Phosphate (Total)	mg/l																						
Oxidation Reduction Potential	mV																						
Phosphorus (Total)	mg/l																						
pH	S.U.	6.5-8.5		7.08	7.17	7.19	6.78	7.15	7.29	7.28	7.14	6.85	7.17	7.17	7.24	7.56	6.97	6.99	7.11	7.33	7.05		
Specific Conductance	um/cm			699	867	759	704	701	684	727	813	862	784	764	774	761	842	650	797	800	773	781	
Sulfate	mg/l	250		47.6	47	45.4	48.0	50.9	52.3	51.7	51.1	51.4	50.1	50.6	62.2	71.7	68.3	49.7	94.7	56.7	53.4	<5.0R	
Sulfide	mg/l			<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2	<2	<2.0	<2.0	<2.0	<2.0					51.3	
Total Dissolved Solids	mg/l	500		392		418		487		468		389		483		458		456		513		477	
Dissolved Organic Carbon	mg/l			1.8	3.4	<1	3	2.4	2.5	2.4	1.2	1.1	2.1	3.6									
Total Organic Carbon	mg/l			<1	1	<1	<1.0	2	2	2.3	<1.0	1.6	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	1.2	
Total Suspended Solids	mg/l																						
Ethane	ug/l			<4	<4	<4	<4,000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4,7	<4	<4	<4	<4	<4	
Ethene	ug/l			<3	<3	<3	<3,000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3,0	<3	<3	<3	<3	<3	
Methane	ug/l			6.2	30	180	130	15	29	22	2.5	<2	<2	<2	<2	<2	5.2	55	6.8	18	<2	4.2	

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

CONTINUED
ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW04BRR (cont'd)																										
				Nov-07	May-08	5/08 Dup	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	May-16	Oct-16	May-17	Nov-17					
Alkalinity	mg/l			245	291	276	291	288	355	339	370	344	318	503	344	351	371	353	361	319	404B	366	394B	390	454					
Ammonia (as N)	mg/l			0.055	0.074	0.190	0.085	0.089	0.072	0.060	0.045	<0.20	0.041	0.038	0.062	0.045	0.041	0.067	0.041	<0.020	0.068	<0.020 UJ	0.027 J-	<0.020	<0.020					
Biological Oxygen Demand	mg/l																													
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10 UJ	<10	<10	<10	<10	<10	<10	<10UJ	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
Chloride	mg/l			250	54.3	54.9	54.3	51.0	43	45.5	50.1	55.3	59.1J-	62.5	56.3	64.1J	58.3	61.0	52.9	66.7	67.5	66.2	68.7	62.8	61.9	65.6				
Cyanide	ug/l	200																												
Dissolved Oxygen	mg/l							0.32	0.22		0.08	1.51		0.00	0.00	0.27	0.00	0.00	0.01	0.01	0.04	0.04	0.02	0.02	0.01	0.01	0.04			
Nitrate	mg/l	10																												
Nitrate + Nitrite	mg/l	10						<0.050	<0.050		<0.050	<0.050		<0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050				
Oil and Grease	mg/l																													
Ortho-Phosphate (Total)	mg/l																													
Oxidation Reduction Potential	mV							-69.8	-81.2		-79.9	-112.1	-101.4	-55.0	-105.0	-65.3	-93	-77	-113	-64	-39.9	-67.3	-42.5	-73.1	-77.3	-46.3	-47.5			
Phosphorus (Total)	mg/l							0.058	<0.010		<0.010	0.0243	<0.0100	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010				
pH	S.U.	6.5-8.5						7.28	7.11		7.31	7.18	7.09	6.99	7.00	7.21	7.17	7.00	7.12	7.20	7.13	7.07	7.03	7.08	7.15	7.03	6.83	6.97	7.09	
Specific Conductance	um/cm							613	777		655	776	825	727	903	920	895	847	851	912	906	977	1022	929	1073	930	1099	1082	1018	
Sulfate	mg/l	250						49	44.2		47.9	66.0	62.8	93.7	81.6	90J-	75.5	51.6	56.6J	62.9	56.9	66.3	65.5	42.3	46.9	37.6	49.1	47.0	48.9	
Sulfide	mg/l																													
Total Dissolved Solids	mg/l	500						433	388		398	441	529J+	491	552	560	604	501	545	489	541	505	485	534	468	541	505	518	454	688B
Dissolved Organic Carbon	mg/l																													
Total Organic Carbon	mg/l							1.5	<1.0		<1.0	<1.0	<1.0	<1.0	<1.0	1.3	1.2	<1.0	1.1	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0		
Total Suspended Solids	mg/l																													
Ethane	ug/l							<4	<4		<4	<4	<4	<4	<4	<20	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4		
Ethene	ug/l							<3	<3		<3	<3	<3	<3	<3	<15	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3		
Methane	ug/l							<2	5.8		4.5	4.4	2.4	16	18	27	22	40	12	14	38	57	31	21	28	130	15	45	55	210

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW05A									
				Feb-95	2/95 dup.	May-95	Aug-95	Dec-95	May-96	Nov-96	May-97	Nov-97	Sep-98
Alkalinity	mg/l												440J
Ammonia (as N)	mg/l			2.6									4.85
Biological Oxygen Demand	mg/l			<5									
Chemical Oxygen Demand	mg/l			<20									
Chloride	mg/l			72									
Cyanide	ug/l	200	250	<0.75	<0.75	<1.4	<1.4J						74
Dissolved Oxygen	mg/l												0.16
Nitrate	mg/l	10											
Nitrate + Nitrite	mg/l	10		0.26									<0.1
Oil and Grease	mg/l			<5.1									
Ortho-Phosphate (Total)	mg/l			<0.02									
Oxidation Reduction Potential	mV												28
Phosphorus (Total)	mg/l												
pH	S.U.	6.5-8.5		7.09		7.87	7.46	7.11	7.36	7.11	7.05	7.4	7.09
Specific Conductance	um/cm			815		981	982	844	1011	786	837	853	935
Sulfate	mg/l	250		41									38.1
Sulfide	mg/l												
Total Dissolved Solids	mg/l	500		490									3.5
Dissolved Organic Carbon	mg/l												4.6
Total Organic Carbon	mg/l			2									
Total Suspended Solids	mg/l			<10									
Ethane	ug/l												16
Ethene	ug/l												<15
Methane	ug/l												400

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW05AR																	
				May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	
Alkalinity	mg/l			314	295	340	336	311	314	298	294	320	348	329	290	323	348	374	332	347	
Ammonia (as N)	mg/l			2.4	1.5	2.7	3	1.7	1.2	1.4	0.79	1.2	1.1	1.6	1.8	1.6	2.0	2.1	1.7	1.8	
Biological Oxygen Demand	mg/l			<10		<10		<10		<10		<10		<10		<10		<10		<10	
Chemical Oxygen Demand	mg/l																				
Chloride	mg/l	250		86.6	122	106	89	107	129	91.2	73.2	97.2	77.9	77.5	117	69.7	88.4	90.8	82.0	75.9	
Cyanide	ug/l	200		<0.02				<0.02		<0.02		<0.02		<0.02		<0.02					
Dissolved Oxygen	mg/l					0.00	0.00	0.00	0.00	0.30	0.00	0.00	2.35R	0.26	0.2	0.2	0.0	0.16	0.11	0.12	
Nitrate	mg/l	10				0.7		0.49		0.43		0.30		0.37							
Nitrate + Nitrite	mg/l	10		0.37		0.16		0.63		0.26		0.33		0.10	0.16	0.28	0.34	0.073	0.33	0.74	
Oil and Grease	mg/l			<5		<5		<5		<5		<5		<5	<5UJ	<5					
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV																				
Phosphorus (Total)	mg/l			0.03		0.039		<0.02		<0.01		0.016		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.014	
pH	S.U.	6.5-8.5		6.86	6.89	7.00	6.76	7.01	7.11	6.97	7.03	6.92	7.04	6.97	6.83	6.73	6.81	7.43	6.83	6.98	
Specific Conductance	um/cm			872	885	1111	892	876	1250	1020	1000	1110	898	962	1126	985	1041	827	1061	995	
Sulfate	mg/l	250		69.8	65	76.7	93.4	81.9	98.7	115	75.9	91.5	66.2	80.1	131	47.9	40.3	54.8	72.7	90.0	
Sulfide	mg/l			<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0				
Total Dissolved Solids	mg/l	500		502		583		626		617		504		571	668	569	579	652	595	567	581
Dissolved Organic Carbon	mg/l			1.9	4.7	2.1	3.2	3.6	2.9	4.8	2.4	2.2	2.2	2.3							
Total Organic Carbon	mg/l			2	1.1	<1	1.9	2.9	2.3	3.3	2.3	2.9	2.0	1.9	2.1	2.1	1.4	2.1	2.4	2.8	
Total Suspended Solids	mg/l																		1.1	1.8	
Ethane	ug/l			<4	<4	<4	<4,000	<4	<4	<4	<4	<4	<4	<4	<4,7	<19	<4,7	<4	<4	<4	
Ethene	ug/l			<3	<3	<3	<3,000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<9.8	<3.0	<3	<3	<3
Methane	ug/l			<2	30	36	19	6.5	27	120	6.2	5.8	4.1	4.6	170	73	270	28	24	4.3	<2
																			6.4	74	

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

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ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW05AR (cont'd)																				
				Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	May-16	Oct-16	May-17	Nov-17
Alkalinity	mg/l			310	407	340	313	366	289	373	313	287	317	345	344	330	438	363	348	382	393	342	330	362
Ammonia (as N)	mg/l			3.2	1.4	1.6	1.59	2.22	0.708	1.730	0.73	0.42	0.44	1.00	0.64	0.42	2.10	1.40	1.40	0.95	1.10	1.40	1.00	1.10
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			<10	<10	<10 UJ	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10 UJ	<10	<10	<10 UJ	<10	<10	<10	<10	<10
Chloride	mg/l																							
Cyanide	ug/l	200		83.3	76.8	81.9	100.0	83.1	107.0	101.0	138.0	94.6	76.0	90.7	87.4	98.4	122.0	94.2	125.0	103.0	98.5	83.8	74.6	85.0
Dissolved Oxygen	mg/l																							
Nitrate	mg/l	10																						
Nitrate + Nitrite	mg/l	10																						
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			-39.4	44.5	-34.4	84.3	-20.2	38.6	-17	99.3	55	37	-26	-35.5	34.5	35	45.8	12.9	12.4	24.0	-3.0	167.8	38.3
Phosphorus (Total)	mg/l			<0.010	<0.010	<0.010	<0.010	<0.0100	<0.0100	0.0235	<0.0100	0.054	<0.010	0.03	0.045	0.017	0.036	0.036	0.079	<0.010	<0.010	<0.010	0.028	0.040
pH	S.U.	6.5-8.5		6.88	6.89	7.18	6.93	6.89	6.97	6.77	7.06	7.09	7.00	6.98	7.10	7.08	6.85	7.08	7.09	7.27	6.45	7.16	6.97	7.16
Specific Conductance	um/cm			1021	1083	921	1014	937	972	1065	1100	924	871	942	1039	953	1390	1070	1073	1121	1143	1004	983	910
Sulfate	mg/l	250		73.1	81.8	48.6	71.0	90.2	63.2	82.9	123.0	49.8	38.4	47.7	53.3	46.1	66.1	34.9	37.9	37.0	34.6	29.5	50.6	45.6
Sulfide	mg/l																							
Total Dissolved Solids	mg/l	500		616	576	505	645J+	605	578	586	662	509	476	548	575	519	699	525	560	543	574	536	432	525
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l			3.2	2.5	1.5	1.8	2.4	1.3	2.4	2.5	<1.0	<1.0	1.9	1.1	<1.0	1.9	1.4	1.9	1.7	1.8	1.4	1.6	1.1
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4	<4	<4	<4	<7.5	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<20	<4	<4	<4	<4	
Ethene	ug/l			<3	<3	<3	<3	<7.5	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<15	<3	<3	<3	<3	
Methane	ug/l			6.3	36	2.0	2.6	5.9	12	3.6	8.4	<2.0	8.1	39	6.5	<2.0	150	40	37	43	95	<2	7.4	9.0

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW05B	
				Sep-98	May-99
Alkalinity	mg/l				272J
Ammonia (as N)	mg/l				<0.195
Biological Oxygen Demand	mg/l				
Chemical Oxygen Demand	mg/l				
Chloride	mg/l		250		102
Cyanide	ug/l	200			
Dissolved Oxygen	mg/l				2.42
Nitrate	mg/l	10			
Nitrate + Nitrite	mg/l	10			0.716
Oil and Grease	mg/l				
Ortho-Phosphate (Total)	mg/l				
Oxidation Reduction Potential	mV				138
Phosphorus (Total)	mg/l				
pH	S.U.	6.5-8.5		6.9	7.17
Specific Conductance	um/cm			789	833
Sulfate	mg/l	250			43.9
Sulfide	mg/l				
Total Dissolved Solids	mg/l	500			
Dissolved Organic Carbon	mg/l				1.6
Total Organic Carbon	mg/l				1.4
Total Suspended Solids	mg/l				
Ethane	ug/l				<16
Ethene	ug/l				<15
Methane	ug/l				<8.6

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW05BR																CONTINUED ON NEXT PAGE				
				May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06	Nov-06	May-07	
Alkalinity	mg/l			237	231	263	273	267	272	275	279	311	325	293	235	293	322	308	289	237	263	266	290	
Ammonia (as N)	mg/l			<0.02	<0.02	<0.02	<0.020	<0.02	<0.020	<0.02	<0.02	<0.02	<0.020	<0.020	<0.020	0.12	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020		
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			<10		<10		<10		<10		10		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Chloride	mg/l	250		183	93.3	80.2	87.2	134	105	78.2	82.2	87.2	68.8	78.7	131	76.8	103	84.4	97.1	85.8	92.8	75.0	60.6	
Cyanide	ug/l		200	<0.02				<0.02		<0.02		<0.02		<0.02	<0.020	<0.020								
Dissolved Oxygen	mg/l					0.00	0.00	0.56	3.10	1.87	0.00	0.00	5.15R	0.97	0.6	1.3	0.2	1.88	0.43	1.95	1.18	1.70	0.58	0.06
Nitrate	mg/l	10					1.4		0.64		1.1		0.62		0.98									
Nitrate + Nitrite	mg/l	10			1		0.36		1.1		0.47		0.40		0.57	1.00	0.49	0.60	0.49	0.68	0.61	0.39	0.33	0.42
Oil and Grease	mg/l			<5		<5		<5		<5		<5		<5	<5UJ	<5								
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV																							
Phosphorus (Total)	mg/l			<0.02		0.047		0.02		<0.01		<0.01		<0.01	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	0.016	0.024	0.099	<0.010
pH	S.U.	6.5-8.5		7.03	7.23	7.33	7.02	7.30	7.36	7.18	7.20	7.11	7.25	7.11	7.19	6.58	6.98	6.44	7.01	7.31	7.03	7.11	7.24	
Specific Conductance	um/cm			986	946	784	708	843	910	756	920	980	788	825	914	840	954	680	991	854	872	868	715	
Sulfate	mg/l	250		51.1	49	45	45.4	46.9	47.5	42.7	43.7	44.9	40.3	42.2	51.2	44.6	39.9	39.2	55.1	41.7	40.6	37.6	42.5	
Sulfide	mg/l			<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0						
Total Dissolved Solids	mg/l	500		543		374		582		423		422		494	532	462	543	502	546	468	468	455	482	
Dissolved Organic Carbon	mg/l			1.4	2.7	<1	1.2	2.2	4.1	3.0	<1.0	1.6	2.0	2.3										
Total Organic Carbon	mg/l			<1	<1	<1	<1.0	1.5	1.8	2.5	<1.0	1.8	1.6	<1.0	<1.0	1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4	<4	<4	<4,000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4		
Ethene	ug/l			<3	<3	<3	<3,000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3		
Methane	ug/l			140	950	<2	<2,000	<2	<2	<2	<2	<2	<2	<2	2	<2	<2	<2	<2	<2	<2	<2		

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW0SBR (cont'd)																				
				Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	May-16	Oct-16	May-17	Nov-17
Alkalinity	mg/l			250	294	320	236	281	245	298	275	263	310	270	248	304	334	299	291	316	274	292	296	312
Ammonia (as N)	mg/l			<0.020	<0.020	<0.020	<0.020	0.138	<0.020	<0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020 UJ	<0.020	<0.020	<0.020	
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			<10	<10	<10 UJ	<10	<10	<10	<10	<10	<10	<10	<10	<10UJ	<10	<10	<10	<10	<10	<10	<10	<10	
Chloride	mg/l			75.9	81.1	79.7	99.0	90.7	132.0	87.3	131	88.2	72.7	92.4	127.0	94.9	82.6	91.2	113.0	93.7	95.7	82.2	119.0	79.4
Cyanide	ug/l	200																						
Dissolved Oxygen	mg/l																							
Nitrate	mg/l	10																						
Nitrate + Nitrite	mg/l	10																						
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			-35.8	47.2	5.3	90.6	59.2	78.3	52.0	93.9	86	125	-17	47	40.1	30.9	109.5	-17.4	-1.9	31.6	54.6	61.7	65
Phosphorus (Total)	mg/l			<0.010	<0.010	<0.010	<0.010	<0.0100	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
pH	S.U.	6.5-8.5		7.09	7.13	7.26	7.18	7.23	7.07	7.07	7.29	7.24	7.08	7.24	7.30	7.28	7.20	7.30	7.33	7.46	6.82	7.32	7.25	7.37
Specific Conductance	um/cm			848	883	843	1088	767	964	843	910	848	858	842	1063	868	976	968	827	973	969	910	1022	802
Sulfate	mg/l	250		40.4	45.6	36.8	46	39.0	42.1	37.7	43.8	34.5	33.5	36.6	44.5	36.9	35.1	32.9	36.0	34.5	35.2	29.5	38.4	32.5
Sulfide	mg/l																							
Total Dissolved Solids	mg/l	500		457	444	467	600	471	534	534	525	444	507	469	536	472	487	492	486	452	453	490	456	479
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l			1.8	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	1.1	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	
Methane	ug/l			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW12A																					
				Feb-95	May-95	Aug-95	Dec-95	May-96	Nov-96	May-97	Nov-97	Sep-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02		
Alkalinity	mg/l											292J	276	292	281	307	332	343	333	304	287	313			
Ammonia (as N)	mg/l			0.06								<0.1	<0.02	<0.02	<0.02	0.021	0.027	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		
Biological Oxygen Demand	mg/l			<5																					
Chemical Oxygen Demand	mg/l			<20																					
Chloride	mg/l			58									53	83.9	71.9	76.8	78.3	137	68.4	76.1	93.1	57.8	50.2		
Cyanide	ug/l	200		<0.75	<1.4	<1.4J								<0.02		<0.02		<0.02		<0.02		<0.02			
Dissolved Oxygen	mg/l												4.34		2.31	1.16	0.00	3.08	1.90	1.57	3.22	3.92R	0.34		
Nitrate	mg/l	10													1.2		0.098		0.44		0.93		0.35		
Nitrate + Nitrite	mg/l	10		0.97										1.21J	2.3	0.18		1.6		0.18		0.66			
Oil and Grease	mg/l			<5.3											<5		<5		<5		<5				
Ortho-Phosphate (Total)	mg/l			<0.02																					
Oxidation Reduction Potential	mV													109		152	106	62	119	36	63	138	125	-317R	
Phosphorus (Total)	mg/l													0.02		<0.02		<0.02		<0.01		0.022			
pH	S.U.	6.5-8.5		7.32	7.78	6.93	7.35	7.58	7.2	7.48	7.52	7.21	7.45	6.8	6.98	7.13	6.87	7.17	7.23	6.99	7.21	7.14	7.15		
Specific Conductance	um/cm			793	828	825	739	841	702	640	731	843	666	760	972	835	579	939	898	814	934	836	712		
Sulfate	mg/l	250		42									40.5	48.8	50	39.0	41.6	34.9	45.8	39.9	46.8	45.4	37.6		
Sulfide	mg/l													<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0		
Total Dissolved Solids	mg/l	500		420										472		408		592		540		392			
Dissolved Organic Carbon	mg/l													<1	2.3	6.1	<1	1.4	3.7	4.4	3.2	2.1	2.4	2.4	
Total Organic Carbon	mg/l			1										1.9	1.6	<1	<1	<1.0	1.9	2	3.3	1.6	1.4	1.6	
Total Suspended Solids	mg/l			<10																					
Ethane	ug/l													<16	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	
Ethene	ug/l													<15	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	
Methane	ug/l													<8.6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

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ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW12A (cont'd)																						
				Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11					
Alkalinity	mg/l			242	250	315	318	293	264	304	271	209	309	267	319	295	286	303	318	257	368	287	316			
Ammonia (as N)	mg/l			<0.02	0.057	<0.02	<0.02	0.08	<0.02	0.062	<0.020	0.022	0.043	<0.020	0.038	<0.020	<0.020	0.070	<0.02	<0.02	<0.20	<0.020	<0.020			
Biological Oxygen Demand	mg/l																									
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10				
Chloride	mg/l			53.4	77.0	55.0	54.6	54.2	73.2	67.2	58.4	81.0	49.6	53.8	54.5	60.3	170.0	46.9	88.3	70.8	123	71.6	59.4			
Cyanide	ug/l	200		<0.02	<0.02	<0.02																				
Dissolved Oxygen	mg/l						0.2	1.0	1.3	3.02	0.54	5.94	0.55	2.45	5.02	0.96	1.05	4.04	0.58		2.91	4.31	7.95	0.27	1.49	
Nitrate	mg/l	10																								
Nitrate + Nitrite	mg/l	10					0.25	1.3	0.058	0.58	0.25	0.36	0.68	0.12	0.062	0.2	0.31	0.16	<0.050	1.3	0.526	1.21	0.162	2.6	0.52	0.71
Oil and Grease	mg/l			<5	<5	<5																				
Ortho-Phosphate (Total)	mg/l																									
Oxidation Reduction Potential	mV			-10.2	76.5	18.6	38.1	25.4	42.4	17.1	50.6	20.0	13.9	-114.0	79.2	14.7	78.1	47.6	62.3	95.0	98.0	73	114			
Phosphorus (Total)	mg/l			<0.01	<0.01	<0.01	<0.01	0.059	0.015	0.036	0.022	<0.010	<0.010	<0.010	<0.010	<0.010	0.0180	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.010	<0.010		
pH	S.U.	6.5-8.5		7.05	7.12	7.13	6.94	6.87	6.99	7.15	7.28	6.76	7.32	7.10	7.14	7.25	7.41	7.14	6.87	6.83	7.43	7.05	7.04			
Specific Conductance	um/cm			767	809	798	774	611	886	802	788	981	690	777	786	770	1080	706	874	858	1096	824	818			
Sulfate	mg/l	250		33.4	52.2	32.1	36.4	48.2	45.4	42.0	41.5	37.9	35.6	28.9	36.0	32.6	27.0	31.8	40.7	33.5	49.1	38.6	35.0			
Sulfide	mg/l			<2.0	<2.0	<2.0																				
Total Dissolved Solids	mg/l	500		473	480	457	448	431	481	487	452	507	396	390	384	415	629	402	506	404	621	458	452			
Dissolved Organic Carbon	mg/l			2.8																						
Total Organic Carbon	mg/l			<1.0	<1.0	1.4	<1.0	<1.0	1.3	<1.0	<1.0	1.1	<1.0	1.9	<1.0	<1.0	1.2	<1.0	<1.0	1.6	2.4	<1.0	<1.0			
Total Suspended Solids	mg/l																									
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4			
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3			
Methane	ug/l			<2	<2	12	3.6	3.6	<2	<2	<2	<2	<2	<2	<2	<2	2.0	<2	<2	<2	<2	<2	<2			

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

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ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW12A (cont'd)										
				Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	May-16	Oct-16	May-17	Nov-17
Alkalinity	mg/l			331	381 J+	357	351	311	347	330	353	344	310B	318
Ammonia (as N)	mg/l			<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020 UJ	<0.020	<0.020	<0.020
Biological Oxygen Demand	mg/l													
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	10.6	<10	<10	<10	<10	<10	<10
Chloride	mg/l	250		70	60.8	73.8	71.7	73.1	69.3	76.1	69.0	75.9	77.3	71.4
Cyanide	ug/l			200										
Dissolved Oxygen	mg/l			0.52	5.81	0.63	4.02	0.66	5.72	1.40	3.25	0.85	1.90	1.2
Nitrate	mg/l	10												
Nitrate + Nitrite	mg/l	10		0.53	0.53	0.27	0.16	0.13	0.15	0.19	0.12	0.37	1.5	0.44
Oil and Grease	mg/l													
Ortho-Phosphate (Total)	mg/l													
Oxidation Reduction Potential	mV			1	62	35.9	39.0	52.3	-19.9	21.5	35.6	41.5	57.5	60.2
Phosphorus (Total)	mg/l			<0.010	<0.010	<0.010	<0.010	<0.010	0.015	<0.010	0.014	<0.010	<0.010	0.015
pH	S.U.	6.5-8.5		7.13	7.2	7.07	7.19	7.04	7.24	7.21	7.08	6.82	7.00	7.19
Specific Conductance	um/cm			814	879	867	918	973	898	1005	933	977	936	825
Sulfate	mg/l	250		34.4	44.4	36.2	34.5	30.5	42.9	33.1	37.4	39.2	41.9	33.8
Sulfide	mg/l													
Total Dissolved Solids	mg/l	500		450	521	459	487	478	450B	470	492	507B	444	493
Dissolved Organic Carbon	mg/l													
Total Organic Carbon	mg/l			<1.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	1.0	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l													
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW12B																					
				May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06				
Alkalinity	mg/l			269	254	323	280	269	278	248	252	248	264	204	214	241	277	247	242	215	212	247	266		
Ammonia (as N)	mg/l			0.065	<0.02	0.053	<0.020	0.088	<0.020	0.10	0.064	0.056	0.054	<0.020	<0.020	0.032	0.088	0.20	0.092	0.099	0.068	0.076	0.075		
Biological Oxygen Demand	mg/l			<10		<10		<10		<10		<10		<10		<10		<10		<10		<10		<10	
Chemical Oxygen Demand	mg/l																								
Chloride	mg/l	250		72.3	74.6	72.9	74.5	76.4	75.2	75.2	76.8	81.3	73.1	75.5	87.6	75.9	70.8	80.8	73.4	80.2	77.6	73.8	80.4		
Cyanide	ug/l	200		<0.02				<0.02				<0.02		<0.02		<0.02		<0.02							
Dissolved Oxygen	mg/l							0.00		0.00		0.00		0.00		1.57R		0.16		0.10		0.13		0.31	
Nitrate	mg/l	10						<0.05		<0.050		<0.050		<0.05		<0.050		<0.05		<0.05		0.15		0.07	
Nitrate + Nitrite	mg/l	10		<0.05		<0.05		0.073		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.050	
Oil and Grease	mg/l			<5		<5		<5		<5		<5		<5		<5UJ		<5							
Ortho-Phosphate (Total)	mg/l																								
Oxidation Reduction Potential	mV																								
Phosphorus (Total)	mg/l			<0.02		<0.02		<0.02		<0.01		<0.01		0.013		<0.01		<0.01		<0.01		0.018		0.034	
pH	S.U.	6.5-8.5		7.19	7.02	7.29	6.90	7.31	7.43	7.29	7.38	7.20	7.40	7.17	7.35	7.22	7.17	7.08	7.20	7.80	7.54	8.03	7.38		
Specific Conductance	um/cm			716	897	786	558	702	815	712	769	847	724	781	763	756	785	636	815	776	771	834	775		
Sulfate	mg/l	250		44.6	46.2	45.0	46.8	45.2	44.8	44.9	46.1	47.0	43.3	45.2	53.3	47.7	44.7	48.5	46.3	51.0	45.9	46.2	49.2		
Sulfide	mg/l			<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0			
Total Dissolved Solids	mg/l	500		447		414		441		454		447		473		432		397		460		461		476	
Dissolved Organic Carbon	mg/l			<1		3.5		<1		2.3		2.6		2.4		1.0		1.4		2.1		1.1			
Total Organic Carbon	mg/l			<1		<1		<1.0		1.3		1.6		2.2		1.1		<1.0		<1.0		<1.0		<1.0	
Total Suspended Solids	mg/l																								
Ethane	ug/l			<4		<4		<4		<4,000		<4		<4		<4		<4		<4		<4		<4	
Ethene	ug/l			<3		<3		<3		<3,000		<3		<3		7.4		<3		<3		<3		<3	
Methane	ug/l			53		42		35		110		9.8		51		42		32		2.1		4.1		<2	

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

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ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW12B (cont'd)																				
				Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	May-16	Oct-16	May-17	Nov-17
Alkalinity	mg/l			230	246	238	277	290	258	269	288	220	259	266	273	251	266	260	243	256	242	262	245B	296
Ammonia (as N)	mg/l			0.076	0.13	0.14	3.74	0.070	0.079	0.072	<0.20	0.069	0.079	0.093	0.089	0.065	0.064	0.077	0.069	0.069	0.059 J-	0.062	0.029	0.033
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			<10	<10	<10 UJ	<10	<10	<10	<10	<10	<10	<10	<10UJ	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloride	mg/l	250	200	75.9	78.3	77.6	75	71.3	72.1	84.5	78.5	86.3	81.6	89.8	87.9	90.3	85.6	84.9	88.0	89.0	87.0	88.4	84.5	80.1
Cyanide	ug/l																							
Dissolved Oxygen	mg/l			0.26	0.15	0.11	0.88		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.02	0.05	0.06	0.03	0.03	0.03	0.00	0.02	0.05
Nitrate	mg/l	10																						
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			134.1	-111.4	-118.3	-113.2	-129.9	-114.8	-136	-118	-129	-131	-146	-117.9	-82.0	-111.9	-92.2	-115.1	-122.2	-94.5	-77.1	-121.0	-98.1
Phosphorus (Total)	mg/l			<0.010	<0.010	<0.010	0.0167	<0.0100	0.0518	0.0518	<0.010	<0.010	0.027	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
pH	S.U.	6.5-8.5	7.35	7.35	7.33	7.49	7.39	7.33	7.29	7.16	7.50	7.33	7.25	7.36	7.47	7.37	7.42	7.31	7.38	7.35	7.39	7.17	7.18	7.40
Specific Conductance	um/cm			807	821	790	772	735	721	811	812	792	828	821	818	839	897	941	824	954	835	907	881	784
Sulfate	mg/l	250	48.0	48.0	49.6	48.1	49.0	45.4	44.5	49.3	47.5	47.8	47.1	48.5	48.7	49.7	46.4	46.4	44.9	45.2	43.5	51.0	43.0	39.4
Sulfide	mg/l																							
Total Dissolved Solids	mg/l	500	352	403	437	448	430	431	373	466	451	472	455	464	443	447	421	425B	451	421	484B	394	456	
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l			1.5	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	
Methane	ug/l			3.6	3.9	<2	<2	5.1	3.5	3.5	2.3	<2	3.2	3.5+	<2	<2	2.3	<2	9.2	4.3	<2	<2	16	

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW13B																				
				Feb-95	May-95	Aug-95	Dec-95	May-96	Nov-96	May-97	Nov-97	Sep-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	
Alkalinity	mg/l											307J	311	291	331	325	318	331	298	316	283	322		
Ammonia (as N)	mg/l											<0.117	<0.02	<0.02	<0.020	<0.02	<0.020	0.03	<0.020	<0.02	<0.020			
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l																							
Chloride	mg/l																							
Cyanide	ug/l	200																						
Dissolved Oxygen	mg/l																							
Nitrate	mg/l	10																						
Nitrate + Nitrite	mg/l	10																						
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV																							
Phosphorus (Total)	mg/l																							
pH	S.U.	6.5-8.5		7.53	7.67	7.72	7.1	7.13	7.55	7.47	7.52	7.1	7.31	7.04	7.27	7.32	6.79	7.19	7.25	7.12	7.22	7.15	7.22	
Specific Conductance	um/cm			553	786	757	735	799	694	706	721	829	742	712	920	779	549	656	797	710	768	830	759	
Sulfate	mg/l	250											62.4	70.4	64.4	67.1	64.5	59	57.5	57.7	61.7	62.7	64.2	
Sulfide	mg/l																							
Total Dissolved Solids	mg/l	500																						
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l																							
Total Suspended Solids	mg/l																							
Ethane	ug/l																							
Ethene	ug/l																							
Methane	ug/l																							

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

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TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW13B (cont'd)																				
				Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11			
Alkalinity	mg/l			284	233	267	301	280	255	271	300	290	340	303	296	288	307	310	324	355 J+	313	336		
Ammonia (as N)	mg/l			<0.020	<0.020	<0.020	<0.020	0.092	<0.020	0.066	0.025	0.034	0.033	<0.020	0.061	<0.020	0.094	0.034	0.020	0.120	0.045	0.022		
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			<10		<10		<10		<10		<10		<10		<10 UJ		<10		<10		<10		
Chloride	mg/l	250	200	44.0	56.6	48.2	46.8	48.3	45.6	43.8	43.7	52.8	49.5	52.6	46.0	44.6	46.0	55.8	61.9	71.6	67.2	54.9	47.4	
Cyanide	ug/l			<0.02		<0.02																		
Dissolved Oxygen	mg/l			0.30	0.10	0.00	0.03	0.56	0.14	0.13	0.33	0.15	0.08	0.37	0.10	0.04	1.10	0.00	0.23	0.00	0.00	0.00		
Nitrate	mg/l	10			<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050R		<0.050		<0.050UJ	
Nitrate + Nitrite	mg/l	10		<0.05		<0.05		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		
Oil and Grease	mg/l			<5		<5																		
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			-54.7	-118	-98.5	-130.6		-131.2	-105.9	-72.5	-88.5	-107.8	-182.4	-89.3	-116.1	-123.6	-115.7	-91.6	-126	-115	-119	-108	
Phosphorus (Total)	mg/l			<0.01		<0.01		<0.01		<0.01		0.1	<0.010	<0.010	0.0143	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
pH	S.U.	6.5-8.5		7.14	7.23	7.54	7.05	6.93	7.09	7.59	7.30	7.17	6.98	7.22	7.53	7.40	7.23	7.20	7.15	7.01	7.32	7.18	7.06	
Specific Conductance	um/cm			703	768	716	769	864	789	741	754	720	805	725	809	659	797	757	649	845	864	831	825	
Sulfate	mg/l	250		64.8	75.9	63.3	60.1	58.6	58.3	60.4	58.0	54.3	52.1	46.7	49.5	53.4	50.0	50.1	45.6	49.8	49.9	48.1	43.6	
Sulfide	mg/l			<2.0	<2.0	<2.0																		
Total Dissolved Solids	mg/l	500		413		459		418		465		397		435		438		396		485		476		
Dissolved Organic Carbon	mg/l			6.3																				
Total Organic Carbon	mg/l			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0		
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4		
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3		
Methane	ug/l			<2	<2	<2	<2	4.4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

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ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW13B (cont'd)										
				Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	May-16	Oct-16	May-17	Nov-17
Alkalinity	mg/l			344	329	327	326	308	320	355	325	318	305B	301
Ammonia (as N)	mg/l			0.039	0.043	<0.020	<0.020	0.023	<0.020	0.047	<0.020	0.028	<0.020	<0.020
Biological Oxygen Demand	mg/l													
Chemical Oxygen Demand	mg/l			<10		<10		<10		<10		<10		<10
Chloride	mg/l	250	200	58.4	51.6	57.4	51.1	60.6	52.0	57.4	63.9	58.4	80.3	81
Cyanide	ug/l													
Dissolved Oxygen	mg/l			0.00	0.00	0.01	0.01	0.02	0.01	0.00	0.02	0.00	0.00	0.02
Nitrate	mg/l	10			<0.050		<0.050		<0.050		<0.050		<0.050	
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Oil and Grease	mg/l													
Ortho-Phosphate (Total)	mg/l													
Oxidation Reduction Potential	mV			-139	-95.6	-48.6	-98.3	-78.8	-109.9	-110.6	-72.7	-90.4	-103.4	-93.3
Phosphorus (Total)	mg/l			<0.010		<0.010		<0.010		<0.010		<0.010		<0.010
pH	S.U.	6.5-8.5		7.18	7.30	7.22	7.19	7.23	7.14	7.25	7.16	7.14	7.09	7.31
Specific Conductance	um/cm			866	810	792	981	996	868	933	894	884	943	856
Sulfate	mg/l	250	500	47.8	43.1	43.3	44.9	43.7	43.6	43.0	38.8	40.2	41.8	44.7
Sulfide	mg/l													
Total Dissolved Solids	mg/l			488		425		479		454		466		481
Dissolved Organic Carbon	mg/l													
Total Organic Carbon	mg/l			<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l													
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			3.8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW13C																
				Sep-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04
Alkalinity	mg/l			292J	302	283	323	302	302	317	285	278	286	318	287	234	262	289	267	246
Ammonia (as N)	mg/l			<0.121	0.06	<0.02	<0.02	<0.020	0.07	<0.020	0.074	0.026	0.034	<0.020	<0.020	<0.020	0.051	0.073	0.070	0.066
Biological Oxygen Demand	mg/l					25				<10				<10		<10		<10		<10
Chemical Oxygen Demand	mg/l						30.6	35	34.9	38.3	38.1	36.9	37.4	38.1	39.3	41.6	41.9	41.2	52.2	47.8
Chloride	mg/l		250																48.5	50.3
Cyanide	ug/l	200																	60.8	44.8
Dissolved Oxygen	mg/l						0.06		0.00	0.00	0.00	0.00	0.00	0.00	1.79R	0.06	0.10	0.10	0.05	0.17
Nitrate	mg/l	10																	0.16	0.57
Nitrate + Nitrite	mg/l	10																	<0.050	CONTINUED ON NEXT PAGE
Oil and Grease	mg/l																			<0.050
Ortho-Phosphate (Total)	mg/l																			
Oxidation Reduction Potential	mV																			
Phosphorus (Total)	mg/l																			
pH	S.U.	6.5-8.5		7.1	7.38	7.11	7.28	7.35	7.14	7.27	7.35	7.31	7.31	7.28	7.28	7.30	7.41	7.11	7.31	7.19
Specific Conductance	um/cm			781	677	676	897	754	538	673	777	686	755	813	736	693	744	705	766	855
Sulfate	mg/l	250			52.2	68.2	63	68.5	68.7	64.7	65	65.2	67.2	66.2	62.6	59.4	68.9	60.4	58.6	60.3
Sulfide	mg/l					<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		
Total Dissolved Solids	mg/l	500																		
Dissolved Organic Carbon	mg/l																			
Total Organic Carbon	mg/l																			
Total Suspended Solids	mg/l																			
Ethane	ug/l																			
Ethene	ug/l																			
Methane	ug/l																			

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW13C (cont'd)																				
				Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15			
Alkalinity	mg/l			254	277	285	302	304	275	329	299	315	322	283	322	309	277	326	291	306B	302	354	272	
Ammonia (as N)	mg/l			0.062	0.060	0.083	0.10	0.13	0.079	0.083	0.079	0.055	0.140	0.059	0.074	0.080	0.072	0.065	0.055	0.063	0.042	0.059	0.065	
Biological Oxygen Demand	mg/l						<10		<10		<10		<10		<10		<10		<10		<10		<10	
Chemical Oxygen Demand	mg/l																							
Chloride	mg/l	250	41.3	39.2	38.7	38.9	36.0	39	45.3	43.8	43.3	44.8	43.2	39.5	43.9	42.8	47.7	49.2	41.6	49.0	49.9	47.5		
Cyanide	ug/l			200																				
Dissolved Oxygen	mg/l				0.17	0.04	0.40	1.40	0.22	1.37		0.00	0.04	0.00	0.00	0.00	0.00	0.05	0.08	0.07	0.05	0.03	0.05	
Nitrate	mg/l	10			<0.050		<0.050		<0.050			<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		
Nitrate + Nitrite	mg/l	10																						
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV																							
Phosphorus (Total)	mg/l																							
pH	S.U.	6.5-8.5			7.30	7.14	7.35	7.65	7.47	7.30	7.26	7.25	7.12	7.41	7.27	7.18	7.29	7.39	7.20	7.27	7.30	7.22	7.33	7.25
Specific Conductance	um/cm				666	748	654	751	623	762	726	572	753	764	752	766	765	711	747	897	929	834	868	804
Sulfate	mg/l	250	59.6	57.4	54.6	54.1	50.4	50.0	50.6	49.3	46.9	48.1	44.9	43.2	44.3	42.4	43.5	41.9	41.6	43.2	44.9	41.4		
Sulfide	mg/l																							
Total Dissolved Solids	mg/l	500			511		434		488J+			416		426		393		445		420		448		425
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l				1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Total Suspended Solids	mg/l																							
Ethane	ug/l				<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	
Ethene	ug/l				<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	
Methane	ug/l				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

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TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW13C (cont'd)		
				Oct-16	May-17	Nov-17
Alkalinity	mg/l			324B	317	333
Ammonia (as N)	mg/l			0.055 J-	0.038	0.05
Biological Oxygen Demand	mg/l				<10	
Chemical Oxygen Demand	mg/l					
Chloride	mg/l	250		50.3	54.7	59.0
Cyanide	ug/l		200			
Dissolved Oxygen	mg/l			0.00	0.04	0.08
Nitrate	mg/l	10		<0.050		<0.050
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050
Oil and Grease	mg/l					
Ortho-Phosphate (Total)	mg/l					
Oxidation Reduction Potential	mV			-90.4	-109.9	-98.6
Phosphorus (Total)	mg/l				<0.010	
pH	S.U.	6.5-8.5		7.20	7.17	7.39
Specific Conductance	um/cm			849	826	796
Sulfate	mg/l	250		41.3	43.1	43.6
Sulfide	mg/l					
Total Dissolved Solids	mg/l	500		367		
Dissolved Organic Carbon	mg/l					
Total Organic Carbon	mg/l			<1.0	<1.0	<1.0
Total Suspended Solids	mg/l					
Ethane	ug/l			<4	<4	<4
Ethene	ug/l			<3	<3	<3
Methane	ug/l			<2	<2	<2

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW14B																				
				Feb-95	May-95	Aug-95	Dec-95	May-96	Nov-96	May-97	Nov-97	Sept-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	
Alkalinity	mg/l											305J	308	284	322	308	296	305	277	268	273	309		
Ammonia (as N)	mg/l											0.154	<0.02	<0.02	<0.02	<0.020	<0.02	<0.02	0.04	<0.02	<0.02	<0.020		
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l																							
Chloride	mg/l																							
Cyanide	ug/l	200																						
Dissolved Oxygen	mg/l																							
Nitrate	mg/l	10																						
Nitrate + Nitrite	mg/l	10																						
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV																							
Phosphorus (Total)	mg/l																							
pH	S.U.	6.5-8.5		7.16	7.74	7.37	7.37	7.13	7.76	7.43	7.62	7.17	7.26	7.05	7.02	7.20	7.05	7.22	7.20	7.34	7.30	7.00	7.19	
Specific Conductance	um/cm			542	762	830	722	801	666	691	696	833	689	710	911	766	547	671	752	673	744	833	732	
Sulfate	mg/l	250											5.72	63.2	56	58.5	57.9	53.3	53	53.3	55.0	55.4	55.1	
Sulfide	mg/l													<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	
Total Dissolved Solids	mg/l	500																						
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l																							
Total Suspended Solids	mg/l																							
Ethane	ug/l																							
Ethene	ug/l																							
Methane	ug/l																							

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

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TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW14B (cont'd)																				
				Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11			
Alkalinity	mg/l			219	236	262	296	215	247	216	228	272	272	264	286	251	229	284	268	308	316	272	432J+	
Ammonia (as N)	mg/l			<0.020	<0.020	<0.020	<0.020	0.071	0.085	0.044	0.062	0.027	0.062	0.029	<0.020	0.053	<0.020	0.034	0.048	0.033	0.15	0.081	0.04	
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			<10		<10		<10		<40		<10		<10		<10 UJ		<10		<10		<10		
Chloride	mg/l	250		47.4	64.7	55.0	55.7	62.4	59.7	59.8	55.7	53.2	50.0	50.3	49.4	50.8	48.0	51.0	52.0	53.8	51.4	49.5	47.9	
Cyanide	ug/l	200		<0.02		<0.02																		
Dissolved Oxygen	mg/l			0.10	0.10	0.00	0.06	0.31	0.28	0.23	0.72	0.23	0.10	0.72	0.17	0.14	1.10	0.00	0.09	0.03	0.00	0.03		
Nitrate	mg/l	10			<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050	<0.050	<0.050R	<0.050	<0.050	<0.050	<0.050	
Nitrate + Nitrite	mg/l	10		<0.05		<0.05		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		
Oil and Grease	mg/l			<5		<5																		
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			-71.4	-115.1	-141.7	-104.1		-129.9	-116.4	-70.5	-98.9	-109.1	-143.3	-88.6	-99.9	-129.2	-105.4	-83.0	-120	-95	-120	-123	
Phosphorus (Total)	mg/l			<0.01		<0.01		<0.01				<0.01		<0.010		<0.010		0.0105	<0.010	<0.010	<0.010			
pH	S.U.	6.5-8.5		7.21	7.28	6.82	6.91	7.29	7.14	7.86	7.08	7.11	7.13	7.03	7.22	7.41	7.27	7.24	7.04	6.99	9.04	7.21	7.10	
Specific Conductance	um/cm			747	775	752	800	886	814	750	758	678	766	654	768	627	726	711	558	739	734	727	744	
Sulfate	mg/l	250		56.4	67.5	59.6	56.9	58.0	57.6	57.6	51.4	53.1	51.9	48.7	50.4	50.1	46.0	47.4	48.3	50.1	45.7	42.6	41.1	
Sulfide	mg/l			<2.0	<2.0	<2.0																		
Total Dissolved Solids	mg/l	500		471		430		423		455		422		407		413		415		408		411		
Dissolved Organic Carbon	mg/l			5.6																				
Total Organic Carbon	mg/l			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	1.1	<1.0	<1.0		
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4		
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3		
Methane	ug/l			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

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ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW14B (cont'd)										
				Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	May-16	Oct-16	May-17	Nov-17
Alkalinity	mg/l			268	278	291	370	267	274	291	264	299	293B	310
Ammonia (as N)	mg/l			0.059	0.054	<0.020	0.027	0.04	<0.020	0.047	0.022	0.047	<0.020	0.034
Biological Oxygen Demand	mg/l													
Chemical Oxygen Demand	mg/l			<10		<10		<10		<10		<10		<10
Chloride	mg/l	250	200	53.3	53.1	53.9	72.3	52.1	57.0	58.6	58.4	55.0	60.8	61.4
Cyanide	ug/l													
Dissolved Oxygen	mg/l			0.00	0.00	0.05	0.06	0.09	0.05	0.03	0.04	0.02	0.03	0.10
Nitrate	mg/l	10			<0.050		<0.050		<0.050		<0.050		<0.050	
Nitrate + Nitrite	mg/l	10			<0.050		<0.050		<0.050		<0.050		<0.050	
Oil and Grease	mg/l													
Ortho-Phosphate (Total)	mg/l													
Oxidation Reduction Potential	mV			-139	-99.9	-63.0	-113.8	-85.0	-92.8	-109.8	-88.2	-93.5	-107.2	-101.4
Phosphorus (Total)	mg/l				<0.010		<0.010		<0.010		<0.010		<0.010	
pH	S.U.	6.5-8.5		7.26	7.35	7.27	7.25	7.28	7.24	7.30	7.25	7.19	7.16	7.38
Specific Conductance	um/cm			748	737	704	854	894	766	858	817	832	818	761
Sulfate	mg/l	250	500	41.9	48.4	43.8	44.2	44.4	41.8	44.6	41.5	40.4	44.5	45
Sulfide	mg/l													
Total Dissolved Solids	mg/l			408		399		440		416		438		455B
Dissolved Organic Carbon	mg/l													
Total Organic Carbon	mg/l			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l													
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW15B																				
				Feb-95	May-95	Aug-95	Dec-95	May-96	Nov-96	May-97	Nov-97	Sep-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02			
Alkalinity	mg/l											349J	329	303	336	336	300	326	287	294	316	342		
Ammonia (as N)	mg/l											0.808	0.79	0.6	0.57	0.53	0.57	0.37	0.28	0.29	0.38	0.57		
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l																							
Chloride	mg/l																							
Cyanide	ug/l	200																						
Dissolved Oxygen	mg/l																							
Nitrate	mg/l	10																						
Nitrate + Nitrite	mg/l	10																						
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV																							
Phosphorus (Total)	mg/l																							
pH	S.U.	6.5-8.5			7.23	7.33	6.93	7.42	7.66	7.52	7.35	7.49	7.51	7.35	6.87	6.99	7.16	6.77	7.06	7.15	7.16	7.00	7.07	
Specific Conductance	um/cm				587	846	851	814	836	746	749	766	847	814	777	850	864	622	785	873	752	859	980	816
Sulfate	mg/l	250																						
Sulfide	mg/l																							
Total Dissolved Solids	mg/l	500																						
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l																							
Total Suspended Solids	mg/l																							
Ethane	ug/l																							
Ethene	ug/l																							
Methane	ug/l																							

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

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ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW15B (cont'd)																			
				Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11		
Alkalinity	mg/l			249	272	321	361	258	293	277	324	369	290	313	318	322	270	298	305	369	300	349	
Ammonia (as N)	mg/l			0.32	0.79	0.70	0.73	1.1	1.2	1.2	0.92	0.54	1.0	0.69	1.1	1.2	0.806	0.356	0.203	0.24	0.35	0.45	0.59
Biological Oxygen Demand	mg/l																						
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10 UJ	<10	<10	<10	<10	<10	<10	
Chloride	mg/l	250		65.8	88.4	67.4	61.4	68.4	79.3	76.2	66.1	66.0	60.2	64.1	58.8	60.2	84.0	94.6	85.1	87.8	87.1	73.7	64.9
Cyanide	ug/l	200		<0.02	<0.02	<0.02																	
Dissolved Oxygen	mg/l			0.10	0.00	0.00	0.05	0.14	0.11	0.12	0.38	0.15	0.04	0.35	0.14	0.06	1.39		0.00	0.00	0.00	0.00	0.00
Nitrate	mg/l	10																					
Nitrate + Nitrite	mg/l	10		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Oil and Grease	mg/l			<5	<5UJ	<5																	
Ortho-Phosphate (Total)	mg/l																						
Oxidation Reduction Potential	mV			-15.5	55.8	62.3	14.6		-2.4	-8.6	6.0	-37.9	-30.8	-171.9	-42.0	-36.6	-54.5	-51.1	-42.9	-75	-68	-72	-64
Phosphorus (Total)	mg/l			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
pH	S.U.	6.5-8.5		7.09	7.13	6.87	6.84	7.11	6.97	7.49	7.34	7.16	7.01	7.09	7.45	7.26	7.10	7.20	7.05	6.97	7.27	7.09	6.98
Specific Conductance	um/cm			831	880	895	994	958	984	853	846	753	900	714	816	705	896	795	486	891	920	881	917
Sulfate	mg/l	250		46.6	53.6	66.6	42.1	37.8	93.8	55.6	40.0	41.1	38.3	39.1	40.5	44.8	38.0	40.8	39.5	39.8	40.5	55.7	44.9
Sulfide	mg/l			<2.0	<2.0	<2.0																	
Total Dissolved Solids	mg/l	500		519	473J	546	576	497	552	510	512	451	583	421	480	500	555J+	419	443	452	524	501	532
Dissolved Organic Carbon	mg/l			1.7																			
Total Organic Carbon	mg/l			<1.0	<1.0	1.6	1.5	1.4	1.9	<1.0	1.2	<1.0	<1.0	1.4	<1.0	<1.0	1.4	<1.0	1.4	1.7	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l																						
Ethane	ug/l			<4	<4	<9.4	<47	<9.4	<9.4	<4	<4.7	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<4.9	<25	<4.9	<4.9	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			5.9	22	120	600	74	51	13	59	4.7	220	26	79	21	15	6.0	19.0	19	25	27	90

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

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ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW15B (cont'd)										
				Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	May-16	Oct-16	May-17	Nov-17
Alkalinity	mg/l			278	361	356	358	347	338	298	332	329	327	344
Ammonia (as N)	mg/l			0.45	0.41	0.48	0.71	0.91	0.39	0.68	0.54 J-	0.47	0.17	0.37
Biological Oxygen Demand	mg/l													
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloride	mg/l	250	200	80.6	78.4	83.1	70.8	72.6	85.7	84.7	81.2	87.8	98.5	80.3
Cyanide	ug/l													
Dissolved Oxygen	mg/l			0.00	0.00	0.00	0.02	0.04	0.00	0.00	0.00	0.00	0.00	0.02
Nitrate	mg/l	10												
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l													
Ortho-Phosphate (Total)	mg/l													
Oxidation Reduction Potential	mV			-108	-50.6	-12.5	-59.4	-31.9	-58.6	-73.0	-46.0	-43.7	-66.6	-51.9
Phosphorus (Total)	mg/l			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	S.U.	6.5-8.5	8.74	7.11	7.20	7.12	7.13	7.11	7.14	7.14	7.08	6.93	7.03	7.28
Specific Conductance	um/cm													
Sulfate	mg/l	250	33.4	30.4	34.3	41.6	30.8	25.7	31.2	26.5	38	31.1	32.1	
Sulfide	mg/l													
Total Dissolved Solids	mg/l	500	475	523	474	483	490	472B	459	480	519B	457	507B	
Dissolved Organic Carbon	mg/l													
Total Organic Carbon	mg/l			1.5	<1.0	<1.0	1.1	<1.0	1.3	1.1	1.2	1.1	<1.0	<1.0
Total Suspended Solids	mg/l													
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			15	28	23	43	98	22	52	90	4.6	3.9	3.6

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW15C																								
				Sep-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	May-06	Nov-06					
Alkalinity	mg/l				3151	314	292	330	312	284	317	286	284	287	319	234	244	273	309	282	261	248	266					
Ammonia (as N)	mg/l				0.377	0.24	0.21	0.15	0.14	0.23	0.13	0.25	0.17	0.20	0.18	0.12	0.16	0.16	0.22	0.26	0.26	0.18	0.17					
Biological Oxygen Demand	mg/l							21.9																				
Chemical Oxygen Demand	mg/l								41.5	46.5	45	48	47.4	49.6	48	49.5	48.4	52.7	50.4	49.4	63.4	53.2	56.3					
Chloride	mg/l								<0.02																			
Cyanide	ug/l	200								0.18	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20	0.20	0.10	0.28	0.26					
Dissolved Oxygen	mg/l									<0.050																		
Nitrate	mg/l	10									<0.050																	
Nitrate + Nitrite	mg/l	10										<0.05																
Oil and Grease	mg/l											<5																
Ortho-Phosphate (Total)	mg/l												<5															
Oxidation Reduction Potential	mV																											
Phosphorus (Total)	mg/l																											
pH	S.U.	6.5-8.5			7.77	7.65	7.14	7.23	7.37	7.15	7.31	7.38	7.39	7.48	7.25	7.30	7.30	7.40	7.02	7.09	7.40	7.23	7.56	7.39				
Specific Conductance	um/cm				714	677	671	867	738	526	655	741	662	726	809	715	721	741	725	760	824	771	741	656				
Sulfate	mg/l	250							27	31	31.6	32.2	32.9	31.6	31.9	31.5	32.7	33.5	32.3	37.9	34.1	32.9	34.9	39.7	32.7	34.4		
Sulfide	mg/l									<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0					
Total Dissolved Solids	mg/l	500									457																	
Dissolved Organic Carbon	mg/l											<1	8.3	3.3	<1	2.2	1.8	2.7	1.2	2.5	1.6	2.2	1.9					
Total Organic Carbon	mg/l											<1	<1	<1	<1	1	1.9	1.8	1.2	1.8	<1.0	<1.0	<1.0	<1.0	<1.0			
Total Suspended Solids	mg/l																											
Ethane	ug/l											<16	<4	<4	<4	<4.000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4		
Ethene	ug/l												<15	<3	<3	<3	<3.000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	
Methane	ug/l												<8.6	4.1	2.9	5.7	5.3	3.6	6.5	3.9	3.6	<2	<2	<2	<2	2.0	2.1	<2

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

CONTINUED
ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW15C (cont'd)																	
				Nov-05	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15
Alkalinity	mg/l			255	269	285	255	276	258	303	279	303	306	249	289	284	280	305	284	287B	286
Ammonia (as N)	mg/l			0.30	0.23	0.23	0.27	0.32	0.326	0.271	0.236	0.201	0.42	0.22	0.22	0.27	0.23	0.18	0.25	0.26	0.24
Biological Oxygen Demand	mg/l					<10		<10		<10				<10		<10		<10		<10	
Chemical Oxygen Demand	mg/l																				
Chloride	mg/l																				
Cyanide	ug/l	200																			
Dissolved Oxygen	mg/l																				
Nitrate	mg/l	10																			
Nitrate + Nitrite	mg/l	10																			
Oil and Grease	mg/l																				
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV																				
Phosphorus (Total)	mg/l																				
pH	S.U.	6.5-8.5																			
Specific Conductance	um/cm																				
Sulfate	mg/l	250																			
Sulfide	mg/l																				
Total Dissolved Solids	mg/l	500																			
Dissolved Organic Carbon	mg/l																				
Total Organic Carbon	mg/l																				
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			<2	3.4	2.1	<2	<2	<2	2.0	2.1	<2	<2	3.3	<2	<2	<2	<2	<2	<2	<2

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

CONTINUED
ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW1SC (cont'd)		
				Oct-16	May-17	Nov-17
Alkalinity	mg/l			303B	297	308
Ammonia (as N)	mg/l			0.24 J-	0.22	0.24
Biological Oxygen Demand	mg/l				<10	
Chemical Oxygen Demand	mg/l					
Chloride	mg/l	250		63.3	70.3	70.8
Cyanide	ug/l		200			
Dissolved Oxygen	mg/l			0.01	0.03	0.06
Nitrate	mg/l	10		<0.050		<0.050
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050
Oil and Grease	mg/l					
Ortho-Phosphate (Total)	mg/l					
Oxidation Reduction Potential	mV			-99.2	-118.8	-107.9
Phosphorus (Total)	mg/l				0.032	
pH	S.U.	6.5-8.5		7.27	7.24	7.4
Specific Conductance	um/cm			850	842	770
Sulfate	mg/l	250		29.7	35.9	35.6
Sulfide	mg/l					
Total Dissolved Solids	mg/l	500			356	
Dissolved Organic Carbon	mg/l					
Total Organic Carbon	mg/l			<1.0	<1.0	<1.0
Total Suspended Solids	mg/l					
Ethane	ug/l			<4	<4	<4
Ethene	ug/l			<3	<3	<3
Methane	ug/l			<2	<2	<2

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW16A																				
				Feb-95	May-95	Aug-95	Dec-95	May-96	Aug-96	Nov-96	May-97	Nov-97	Sep-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	Feb-02dup.	
Alkalinity	mg/l													444J	474	368	369	431	368	360	338	371	375	
Ammonia (as N)	mg/l			4.6										7.16J	5.4	5.8	6.1	4.4	4.1	4	3.4	5.3	5.1	
Biological Oxygen Demand	mg/l			<5																				
Chemical Oxygen Demand	mg/l			<20																				
Chloride	mg/l			67											80.4	92.2	72.4	71.8	76.4	77.4	77	80.5	89.1	89.4
Cyanide	ug/l	200		<1.8	<1.4	<1.4J									<0.02	<0.02	<0.02	<0.02	<0.02	<0.02				
Dissolved Oxygen	mg/l														0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Nitrate	mg/l	10														<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.05	<0.05	
Nitrate + Nitrite	mg/l	10		<0.05											<0.1R	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
Oil and Grease	mg/l			<5.3											<5	<5	<5	<5	<5	<5	<5			
Ortho-Phosphate (Total)	mg/l			<0.02																				
Oxidation Reduction Potential	mV														-120	0.05	-114	-145	-125	-135	-138	-158	-101	
Phosphorus (Total)	mg/l															0.08	0.033	0.033	0.033	0.033	0.033	<0.01		
pH	S.U.	6.5-8.5		6.95	7	6.77	7.03	7.48	7.05	6.85	7.08	7.28	7	6.92	6.7	6.87	6.96	6.70	6.91	6.98	6.89	6.88		
Specific Conductance	um/cm			910	1039	955	1073	1231	1003	949	995	1070	1034	923	1046	950	990	910	867	956	901	1170		
Sulfate	mg/l	250		9.9										5.99	14.7	24.5	37.0	48.4	48.9	46.6	55.7	54.3	54.5	
Sulfide	mg/l														<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	
Total Dissolved Solids	mg/l	500		520											503	497	552	552	537					
Dissolved Organic Carbon	mg/l														4.7	5	5.9	2.6	4.3	4.5	5	5.3	3.8	4.3
Total Organic Carbon	mg/l			4											4.8	5.1	3.3	2.5	3.4	4	3.8	5.0	4.0	4.5
Total Suspended Solids	mg/l			46												<16	<4	<4	<4	<4,000	<4	<4	<4	<4
Ethane	ug/l														<15	4.6	<3	<3	<3,000	<3	<3	<3	<3	<3
Ethene	ug/l														1800	1400	39	360	250	80	270	940	160	160
Methane	ug/l																							

CONTINUED
ON NEXT PAGE

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW16A (cont'd)																			
				May-02	Aug-02	Nov-02	May-03	May-03 dup	Nov-03	Nov-03 dup	May-04	Nov-04	May-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	
Alkalinity	mg/l			390	376	330	300	302	379	381	382	401	359	266	325	361	531	425	462	387	370	360	361
Ammonia (as N)	mg/l			4.0	4.8	4.0	3.9	3.9	5.6	5.6	4.7	4.0	4.0	3.5	2.5	2.1	6.1	2.6	3.7	3.4	0.095	1.41	3.07
Biological Oxygen Demand	mg/l																						
Chemical Oxygen Demand	mg/l			17.0		<10	<10	<10	<10	<10	13.1	<10	13.4J	21.0J	17.2	33.5	<10	<10	12.4	<10 UJ	<10	<10	12.7
Chloride	mg/l	250	200	93.7	75.8	67.7	79.2	79.4	89.7	91.3	77.7	64.8	76.4	76.0	71.6	65.8	96.2	63.8	78.9	70.4	65.0	53.3	81.1
Cyanide	ug/l			<0.02		<0.02	<0.02	<0.02	<0.02	<0.02UJ													
Dissolved Oxygen	mg/l			2.99R	0.05	0.2	0.1		0.0		0.02	0.11	0.19	0.15	0.44	0.21	0.20	0.44	0.25	0.22			0.00
Nitrate	mg/l	10		<0.050																			
Nitrate + Nitrite	mg/l	10		<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Oil and Grease	mg/l			<5		<5	<5	<5UJ	<5	<5													
Ortho-Phosphate (Total)	mg/l																						
Oxidation Reduction Potential	mV			-139	-328R	-69.5	-110.8		-112.2		-119.1	-129.7	-154.5	-106.6	-83.2	-103.1	-105.6	-49.3	-66.7	-177.8	-79.0	-114.6	-90.0
Phosphorus (Total)	mg/l			0.04		0.064	0.049	0.043	0.041	0.023	<0.01	<0.01	0.034	0.039	0.034	<0.010	0.053	<0.010	<0.010	<0.010	<0.0100	<0.0100	
pH	S.U.	6.5-8.5	6.5-8.5	6.87	7.00	6.96	6.87		6.94		6.69	6.91	6.79	7.14	7.07	7.46	6.94	6.97	6.84	7.07	6.94	6.89	6.45
Specific Conductance	um/cm			1180	934	914	1040		1095		1227	818	1156	1055	1020	977	1194	808	1137	987	966	948	974
Sulfate	mg/l	250	500	51.4	46.0	51.0	98.2	98.6	45.6	46.4	51.8	39.4	60.6	56.2	35.6	46.7	23.2	39.8	34.2	37.5	65.0	82.2	35.5
Sulfide	mg/l			<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0													
Total Dissolved Solids	mg/l			538		520	613	608	627	638	675	568	630	533	558	567	666	537	571	547	567	572	555
Dissolved Organic Carbon	mg/l			4.3	4.6	6.1																	
Total Organic Carbon	mg/l			4.8	4.2	3.1	2.6	2.7	4.9	4.9	3.6	3.3	3.6	3.8	2.4	2.5	4.2	4.2	2.6	1.9	3.0	2.9	2.3
Total Suspended Solids	mg/l																						
Ethane	ug/l			<4	<4	<4	<12	<12	<47	<47	<47	<47	<47	<47	<4	<4	<7.2	<7.2	<7.2	<4	<7.5	<75	<60
Ethene	ug/l			<3	<3	<3	<9	<9	<25	<25	<25	<25	<25	<3	<3	<6.0	<6.0	<6.0	<3	<7.5	<75	<60	
Methane	ug/l			130	<2	63	510	460	450	550	1200	350	380	270	8	210	770	180	280	31	29	80	110

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

CONTINUED
ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW16A (cont'd)														
				Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	May-16	Oct-16	May-17	Oct-17
Alkalinity	mg/l			367	399	323	390	433	416	444	491	438	395	473	442	488	399	461
Ammonia (as N)	mg/l			4.02	2.60	3.10	4.80	2.90	4.10	2.3	5.2	3.4	3.9	3.5	4.4	3.0	3.0	2.8
Biological Oxygen Demand	mg/l																	
Chemical Oxygen Demand	mg/l			<10	<10	12.4	<10	11J-	<10	<10	12.6	15.1	13.4	<10	<10	<10	<10	<10
Chloride	mg/l	250		78.0	74.4	78.0	78.4	70.6	85.0	63.7	97.8	79.3	86.0	80.3	95.7	70.4	76.3	74.6
Cyanide	ug/l																	
Dissolved Oxygen	mg/l			0.01	0.43	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.60	0.00	0.00	0.01
Nitrate	mg/l	10																
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l																	
Ortho-Phosphate (Total)	mg/l																	
Oxidation Reduction Potential	mV			-116.0	30.7	-111	-109	-141	-78	-60.4	-83.4	-66.8	-82.7	-87.6	-92.9	-78.6	-94.9	-83.6
Phosphorus (Total)	mg/l			0.0252	<0.010	<0.010	<0.010	0.013	0.032	0.019	0.037	0.034	0.032	<0.010	<0.010	<0.010	0.041	0.033
pH	S.U.	6.5-8.5		6.60	7.00	6.89	6.86	6.85	6.98	6.95	6.92	6.93	6.95	7.08	7.09	6.98	6.90	6.95
Specific Conductance	um/cm			1067	960	1077	1052	1050	1129	1036	1306	1195	1134	1227	1179	1175	1110	1014
Sulfate	mg/l	250		55.8	17.2	65.0	32.9	40.1	23.6	55.0	19.4	18.7	15.4	17.6	<5.0	10.8	27.3	37.8
Sulfide	mg/l																	
Total Dissolved Solids	mg/l	500		514	574	583	767	570	552	549	623	569	533	560	602	604	464	583B
Dissolved Organic Carbon	mg/l																	
Total Organic Carbon	mg/l			3.4	3.5	2.6	1.6	3.1	2.2	2.3	4.5	2.6	2.9	3.1	3.7	2.6	1.9	2.4
Total Suspended Solids	mg/l																	
Ethane	ug/l			<60	<40	<4	<4	<40	<4	<4	<40	<40	<40	<40	<40	<40	<44	
Ethene	ug/l			<60	<30	<3	<3	<30	<3	<3	<30	<30	<30	<30	<30	<30	<30	<33
Methane	ug/l			39	62	130	210	1300	130	150	81	600	450	1500	260	51	58	54

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW16B																				
				Feb-95	May-95	Aug-95	8/95 dup.	Dec-95	May-96	Nov-96	May-97	Nov-97	Sep-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	
Alkalinity	mg/l													311J	307	272	292	284	283	260	266	284		
Ammonia (as N)	mg/l													0.527J	0.48	0.21	0.24	0.069	0.17	0.062	0.14	0.086	0.11	
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l																							
Chloride	mg/l																							
Cyanide	ug/l	200		<0.75	<1.4	<1.4J	<1.4J								55.8	57.1	57.4	62.4	64.9	69	67.9	69.8	68.0	72.0
Dissolved Oxygen	mg/l																							
Nitrate	mg/l	10																						
Nitrate + Nitrite	mg/l	10																						
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV																							
Phosphorus (Total)	mg/l																							
pH	S.U.	6.5-8.5		7.81	7.9	7.21		7.05	7.9	6.98	7.47	7.59	7.6	6.97	7.08	7.16	7.24	6.95	7.29	7.25	7.13	7.24	7.15	
Specific Conductance	um/cm			649	725	744		803	776	710	703	828	741	710	706	878	746	673	678	770	713	819	870	
Sulfate	mg/l																							
Sulfide	mg/l																							
Total Dissolved Solids	mg/l																							
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l																							
Total Suspended Solids	mg/l																							
Ethane	ug/l																							
Ethene	ug/l																							
Methane	ug/l																							

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

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ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW16B (cont'd)																			
				Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10		
Alkalinity	mg/l			292	279	253	284	334	336	288	256	259	253	356	250	290	281	296	314	317	282	302	277
Ammonia (as N)	mg/l			0.06	<0.020	0.072	0.026	0.25	0.52	0.25	0.14	0.17	0.12	0.14	0.12	0.16	0.14	0.169	0.129	0.090	0.210	0.057	
Biological Oxygen Demand	mg/l																						
Chemical Oxygen Demand	mg/l																						
Chloride	mg/l	250	200	57.6	57.4	71.3	60.8	58.0	58.4	60.5	63.4	58.7	58.7	64.2	53.5	59.4	58.8	71.0	79.0	76.0	71.1	79.9	67.4
Cyanide	ug/l					<0.02	<0.02	<0.02															
Dissolved Oxygen	mg/l			0.07	0.10	0.30	0.10	0.02	0.12	0.15	0.11	0.34	0.14	0.06	0.39	0.14	0.07	0.43		0.00	0.07	0.69	0.00
Nitrate	mg/l	10		<0.050																			
Nitrate + Nitrite	mg/l	10				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Oil and Grease	mg/l					<5	<5UJ	<5															
Ortho-Phosphate (Total)	mg/l																						
Oxidation Reduction Potential	mV			-312R	-60.9	-108.7	-101.3	-110.5	-114.6	-125.6	-97.6	-75.4	-91.5	-95.2	-42.6	-77.2	-73.5	-114.9	-116.7	-87.5	-114	33.2	-105
Phosphorus (Total)	mg/l					<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.010	<0.010	<0.010	<0.0100	<0.0100	<0.0100	0.0127	<0.010	<0.010
pH	S.U.	6.5-8.5	7.36	7.25	7.23	7.25	7.09	7.00	7.09	7.49	7.38	7.72	7.16	7.36	7.21	7.33	7.26	7.20	6.89	7.00	7.35	7.19	
Specific Conductance	um/cm			724	750	798	700	852	663	900	806	797	614	830	612	801	760	825	869	860	816	790	846
Sulfate	mg/l	250	45.5	40.2	48.2	61.3	44.0	36.7	69.7	49.8	44.4	39.5	44.0	40.2	45.6	41.7	35.0	38.2	34.8	40.2	36.5	50.2	
Sulfide	mg/l			<2.0	<2.0	<2.0	<2.0																
Total Dissolved Solids	mg/l	500	4.6	421	461	472	482	471	484	446	458	451	438	454	396	418	516J+	507	494	389	447	474	
Dissolved Organic Carbon	mg/l				2.4																		
Total Organic Carbon	mg/l			1.5	<1.0	<1.0	1.6	<1.0	1.1	1.1	1.5	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	1.6	<1.0	1.4	1.1	<1.0	
Total Suspended Solids	mg/l																						
Ethane	ug/l			<4	<4	<4	<4.7	<9.4	<9.4	<9.4	<4	<4	<4	<4	<4	<4	<4	<7.5	<4	<4	<4	<4	
Ethene	ug/l			<3	<3	<3	<3	<4.9	<4.9	<4.9	<3	<3	<3	<3	<3	<3	<3	<7.5	<3	<3	<3	<3	
Methane	ug/l			4	8.4	23	55	240	41	48	<2	<2	3.9	200	10	14	<2	2.6	20	17	12	7.9	13

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

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ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW16B (cont'd)											
				May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	May-16	Oct-16	May-17	Oct-17
Alkalinity	mg/l			335	316	302	338	321	311	278	336	300	325	337B	367
Ammonia (as N)	mg/l			0.058	0.067	<0.020	0.053	0.130	0.084	<0.020	0.098	<0.020 UJ	0.130	0.052	0.15
Biological Oxygen Demand	mg/l														
Chemical Oxygen Demand	mg/l			<10	<10UJ	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloride	mg/l	250		61.6	68.7J	73.8	73.9	71.6	69.1	78.3	76.7	76.8	70.6	78.8	75.4
Cyanide	ug/l														
Dissolved Oxygen	mg/l			0.00	0.00	0.00	0.00	0.04	0.07	0.01	0.03	0.03	0.03	0.00	0.03
Nitrate	mg/l	10													
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l														
Ortho-Phosphate (Total)	mg/l														
Oxidation Reduction Potential	mV			-93	-123	-69.5	-57.2	-77.1	-51.4	-86.9	-92.2	-58.6	-73.8	-91.2	-87.4
Phosphorus (Total)	mg/l			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	S.U.	6.5-8.5		7.10	7.23	7.30	7.31	7.31	7.22	7.32	7.37	7.23	7.25	7.20	7.33
Specific Conductance	um/cm			870	785	900	832	900	927	886	964	856	932	963	836
Sulfate	mg/l	250		36.6	28.5J	35.9	33.1	37.4	29.9	30.5	32.2	31.9	22.9	24.1	28.6
Sulfide	mg/l														
Total Dissolved Solids	mg/l	500		490	423	461	438	441	457	425B	441	446	477	440	493B
Dissolved Organic Carbon	mg/l														
Total Organic Carbon	mg/l			<1.0	1.4	<1.0	<1.0	<1.0	<1.0	1.1	1.0	<1.0	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l														
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			29	37	<2	26	10	72	3.2	98	22	18	16	49

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW17A																				
				May-00	5/00 dup.	Aug-00	8/00 dup.	Nov-00	Feb-01	2/01 dup.	May-01	Aug-01	Nov-01	11/01 dup.	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	4/04 Dup.	Nov-04	
Alkalinity	mg/l			594	599	559	517	660	791	654	582	534	500	517	415	454	421	362	379	401	431	467	372	
Ammonia (as N)	mg/l			5.6	4.9	7.9	10	10	5.9	6.3	4.9	7	4.9	5.2	4.4	1.9	4.5	3.2	3.6	3.1	3.6	4.5		
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			37.5	37.5			11.3			<10		12.1	12.7		17.0		13.6	15.6	<10	21.0	17.4	19.1	
Chloride	mg/l			79.4	79.1	125	125	129	73.4	42.9	58.4	111	94.1	93.9	95.9	110	98.6	51.4	133	86.1	86.3	119		
Cyanide	ug/l	200		<0.02	<0.02					<0.02			<0.02	<0.02	<0.02		<0.02	<0.02	<0.02	<0.02				
Dissolved Oxygen	mg/l						0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.28R	0.04	0.40	0.10	0.10	0.03		0.17	
Nitrate	mg/l	10					<0.050	<0.050		<0.050	<0.050		<0.050			0.060	<0.050							
Nitrate + Nitrite	mg/l	10		0.08	0.08					<0.05		0.078		<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	0.077	<0.05	<0.05	
Oil and Grease	mg/l			<5	<5					<5		<5		<5		<5		<5	<5UJ	<5				
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV						-74			-121	-85		-92	-98	-108	-64	-80	-363R	-47.5	-94.2	-88.3	-90.6	9.9	
Phosphorus (Total)	mg/l			0.04	0.04					0.048		0.049	0.027	0.023	0.039	0.077	0.081	0.080	<0.01	<0.01	0.069			
pH	S.U.	6.5-8.5		6.47		6.65		6.76	6.52		6.69	6.82	6.76		6.81	6.54	6.90	6.75	6.60	7.45	6.65		6.15	
Specific Conductance	um/cm			1197		1220		1380	1410		1180	1190	1300		1380	1360	1181	1152	1510	1205	1347		1054	
Sulfate	mg/l	250		30.2	29.9	<5	<5	8.3	118	117	162	36.2	50.8	51.6	56.1	105	55.6	79.0	207.0	50.4	163.0	194.0	45.0	
Sulfide	mg/l			<2	<2	<2	<2	<2	<2.0	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0			
Total Dissolved Solids	mg/l	500		708	716			660			828		746	656	724		721	1020J	693	846	837	711		
Dissolved Organic Carbon	mg/l			4.6	4.7	10.4	10.1	5.4	6.1	5.0	6.9	7.5	7.6	7.9	6.1	6.3	5.6	10.7						
Total Organic Carbon	mg/l			4.6	4.7	8	8.0	5.6	5.5	5.6	5.3	6.9	8.0	8.5	4.8	6.1	5.0	5.2	1.9	4.7	2.8	2.8	4.7	
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4	<4	<4	<4	4.4	<4,000	<4,000	<4	<4	6.8	7.3	<4	<4	<4	<4	<12	<4.7	<47	<9.4	<4.7	
Ethene	ug/l			3.6	<3	<3	3	<3	<3,000	<3,000	<3	5.3	<3	<3	<3	<3	<3	<9	<3	<25	<4.9	<3		
Methane	ug/l			1100	810	1300	1400	530	160	150	120	590	970	940	120	160	29	34	760	93	330	230	24	

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

CONTINUED
ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW17A (cont'd)																				
				May-05	5/05 Dup.	Nov-05	May-06	Nov-06	May-07	5/07 Dup.	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	
Alkalinity	mg/l			377	362	333	372	428	373	355	402	495	448	401	488	483	564	472	426	468	465	439	527	
Ammonia (as N)	mg/l			3.1	2.8	3.0	2.0	2.0	2.3	2.4	2.8	1.9	2.8	2.31	2.98	1.55	3.29	2.80	4.10	4.30	4.50	1.4 J-	3.3	
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			<10	<10	<10	22.2	<10	<10	12.4J+	10.9J+	<10	12 J-	<10	21.7	13.0	<10	18.1J+	16.8	14.7J-	12.3	14.9		
Chloride	mg/l			87.5	82.2	68.2	87.6	75.1	78.3	76.9	81.5	67.1	95.1	58	83.6	55.1	77.5	72.1	101	91.4	109	51.4	51.4	
Cyanide	ug/l	200																						
Dissolved Oxygen	mg/l			0.16		0.15	0.41	0.24	0.19			0.24	0.21	0.42	0.26		0.00	0.00	0.36	0.00	0.00	0.00	0.00	
Nitrate	mg/l	10																						
Nitrate + Nitrite	mg/l	10		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			-109.2		-85.9	-40.6	-58.4	-61.7		-105.8	-83.5	-105.0	-78.5	-107.2	-73.5	-99	-34.7	-88	-20	-128	-49.5	-30.7	
Phosphorus (Total)	mg/l			0.026	0.022	0.090	0.097	0.036	0.033	0.029	<0.010	0.034	<0.010	<0.010	0.0274	<0.010	0.0844	<0.010	0.044	0.045	0.084	0.089	0.036	
pH	S.U.	6.5-8.5		6.63		6.92	6.87	7.00	6.97		6.68	6.76	6.86	6.79	6.70	6.78	6.58	6.86	6.79	6.86	6.75	6.90	6.76	
Specific Conductance	um/cm			1309		1061	1223	1194	1003		956	1237	1090	1011	1211	772	1206	1120	1182	1084	1193	1109	1204	
Sulfate	mg/l	250		151	142	66.5	94.4	88.5	79.5	78	51.4	62.4	10.5	110	40.6	108	42.8	83.2	27.5	48.6	34	85.6	29.9	
Sulfide	mg/l																							
Total Dissolved Solids	mg/l	500		735	752	575	748	710	708	756	640	667	627	687	631	641	729	727	636	598	539	716	734	
Dissolved Organic Carbon	mg/l			3.8	3.9	3.9	2.5	3.0	2.5	2.4	5.2	3.4	2.3	3.0	5.6	4.0	3.3	3.9	4.1	3.0	3.7	2.5	4.5	
Total Organic Carbon	mg/l																							
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4.7	<4	<4.7	<4	<4	<4	<4	<4	<4	<4	<4	<4	<7.5	<15	<15	<40	<4	4.6	<4	<4	4.2
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<7.5	<15	<15	<30	<3	<3	<3	<3	<3
Methane	ug/l			26	37	33	65E	36	69	65	32	150	31	21	51	74	50	150	61	40	72	50	120	
							88D																	

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

CONTINUED
ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW17A (cont'd)							
				May-14	Nov-14	May-15	Nov-15	May-16	Oct-16	May-17	Oct-17
Alkalinity	mg/l			561	457B	462	606	574	599B	497	572
Ammonia (as N)	mg/l			4.0	4.3	2.9	3.7	2.6	3.9	3.1	3.8
Biological Oxygen Demand	mg/l										
Chemical Oxygen Demand	mg/l			14.8	16.7	21.2	<10.0	<10.0	16.8	<10.0	<10.0
Chloride	mg/l	250		92.7	113	60.8	110	85.7	116	75.1	132
Cyanide	ug/l										
Dissolved Oxygen	mg/l			0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01
Nitrate	mg/l	10									
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l										
Ortho-Phosphate (Total)	mg/l										
Oxidation Reduction Potential	mV			-67.4	-59.5	-68.1	-73.3	-64.6	-52.6	-78.4	-68.4
Phosphorus (Total)	mg/l			0.03	0.069	0.062	0.071	0.041	0.077	0.07	0.086
pH	S.U.	6.5-8.5		6.79	6.76	6.90	6.83	6.63	6.49	6.81	6.78
Specific Conductance	um/cm			1414	1262	1213	1450	1309	1551	1256	1365
Sulfate	mg/l	250		26.6	19.1	55.5	7.3	14.2	<25.0	31.4	<25
Sulfide	mg/l										
Total Dissolved Solids	mg/l	500		675	640	624	715	693	692	625	745
Dissolved Organic Carbon	mg/l										
Total Organic Carbon	mg/l			3.9	3.0	2.9	4.3	3.7	5.2	2.3	5.5
Total Suspended Solids	mg/l										
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<44
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<33
Methane	ug/l			170	11	590	130	640	120	32	710J

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW17B																				
				May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06	Nov-06	May-07	
Alkalinity	mg/l			325	282	302	314	322	340	299	300	302	312	244	236	281	333	319	270	306	306	332	338	
Ammonia (as N)	mg/l			<0.02	<0.02	<0.02	<0.020	<0.02	<0.020	<0.020	<0.020	<0.02	<0.020	0.054	<0.020	<0.020	<0.020	0.060	0.054	<0.020	0.14	<0.020	<0.020	
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			29.1		<10		<10		<10		<10		<10		<10		<10		<10		<10		
Chloride	mg/l			56.6	53.9	57.7	59.4	57.7	55.6	55.4	56.3	63.1	61.5	65.3	88.5	78.4	72.6	70.7	66.5	64.4	59.9	58.3	57.1	
Cyanide	ug/l	200																						
Dissolved Oxygen	mg/l																							
Nitrate	mg/l	10																						
Nitrate + Nitrite	mg/l	10																						
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV																							
Phosphorus (Total)	mg/l																							
pH	S.U.	6.5-8.5		7.00	7.07	7.04	6.79	7.30	7.26	7.16	7.12	6.90	7.29	7.10	7.17	7.80	6.98	7.07	7.01	7.17	7.28	7.28	7.10	
Specific Conductance	um/cm			753	935	799	723	701	706	744	836	881	830	773	870	850	893	660	899	909	895	903	856	
Sulfate	mg/l	250		56.3	52.4	54.2	54.6	52	53.1	53.4	55.6	57.0	53.8	56.4	68.4	59.8	56.4	55.8	59.8	65.7	63.9	60.3	52.8	
Sulfide	mg/l			<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		
Total Dissolved Solids	mg/l	500		563		413		499		406		501		487	505	506	533	510	460	500	549	509	533	
Dissolved Organic Carbon	mg/l			<1	4.6	2.9	2	2.5	2.9	2.5	<1.0	1.6	2.2	4.1										
Total Organic Carbon	mg/l			<1	<1	<1	1.6	1.7	2.1	2.3	<1.0	1.9	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4	<4	<4	<4.000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4J	<4	<4	<4	<4	<4		
Ethene	ug/l			<3	<3	<3	<3.000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3J	<3	<3	<3	<3	<3	<3	
Methane	ug/l			11	9.3	6.6	7.1	3.9	6.2	4.2	<2	<2	<2	<2	<2	<2	<2	2.4	<2J	<2	2.3	23E	29	37
																						22D		

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW17B (cont'd)																			
				Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	May-14 Dup	Nov-14	May-15	May-15 Dup		
Alkalinity	mg/l			300	337	336	341	279	309	296	352	299	337	317	270	287	319	330	289B	270	236	320B	308
Ammonia (as N)	mg/l			<0.020	0.024	0.048	<0.020	0.200	<0.020	<0.20	<0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020 UJ	
Biological Oxygen Demand	mg/l																						
Chemical Oxygen Demand	mg/l			<10	<10	<10 UJ	<10	<10	<10	<10	<10	<10	<10	<10	<10UJ	<10	<10	<10	<10	<10	<10	<10	
Chloride	mg/l			56.9	53.3	59.3	56	49.5	52.1	66.2	58.4J-	58.5	55.3	63.5	65.5	69.4	62.4	62.3	71.3	64.6	63.6	65.8	66.1
Cyanide	ug/l	200																					
Dissolved Oxygen	mg/l			0.23	0.20	0.17	0.29		0.00	0.00	0.23	0.00	0.00	0.00	0.10	0.01	0.05	0.05	0.03	0.05	0.02	0.03	
Nitrate	mg/l	10																					CONTINUED ON NEXT PAGE
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Oil and Grease	mg/l																						
Ortho-Phosphate (Total)	mg/l																						
Oxidation Reduction Potential	mV			-95.1	-87.1	-81.1	-88.7	-104.9	-85.5	-100	-43.2	-86	-24	-116	-60.9	-34.0	-70.2	-70.2	-71.4	-80.0	-80.6	-54.2	
Phosphorus (Total)	mg/l			<0.010	<0.010	<0.010	<0.010	<0.0100	<0.010	<0.010	<0.010	0.37	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
pH	S.U.	6.5-8.5		7.17	7.15	7.27	7.14	7.09	7.30	7.00	7.18	7.15	7.15	7.11	7.25	7.19	7.22	7.22	7.16	7.24	7.25	7.13	
Specific Conductance	um/cm			695	883	765	731	806	366	791	900	868	827	870	824	825	906	906	860	853	909	842	
Sulfate	mg/l	250		55.1	50.8	48.4	44.0	40.4	42.4	52.0	69.2J-	65.9	63.6	63.6	44.9	40.6	40.9	40.7	39.2	40.2	37.3	42.3	45.0
Sulfide	mg/l																						
Total Dissolved Solids	mg/l	500		335	485	504	447	422	418	483	547	482	497	406	515	460	426	450	440	393	408	449	448
Dissolved Organic Carbon	mg/l																						
Total Organic Carbon	mg/l			1.8	<1.0	<1.0	<1.0	1.3	1.1	<1.0	1.4	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	<1.0
Total Suspended Solids	mg/l																						
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	
Methane	ug/l			18	13	<2	2.5	<2	<2	<2	5.1	4.3	15	26	4.5	<2	<2	<2	<2	<2	<2	<2	

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW17B (cont'd)			
				May-16 Dup	Oct-16	May-17	Oct-17
Alkalinity	mg/l			313	303B	269	290
Ammonia (as N)	mg/l			<0.020	<0.020 UJ	<0.020	<0.020
Biological Oxygen Demand	mg/l						
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10
Chloride	mg/l	250		66.1	68.1	73.1	75.2
Cyanide	ug/l						
Dissolved Oxygen	mg/l				0.02	0.03	0.03
Nitrate	mg/l	10					
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l						
Ortho-Phosphate (Total)	mg/l						
Oxidation Reduction Potential	mV				-53.5	-79.5	-66.6
Phosphorus (Total)	mg/l			<0.010	<0.010	<0.010	<0.010
pH	S.U.	6.5-8.5			7.01	7.26	7.33
Specific Conductance	um/cm				891	861	769
Sulfate	mg/l	250		44.8	34.3	36.2	37.8
Sulfide	mg/l						
Total Dissolved Solids	mg/l	500		445	372	415	421
Dissolved Organic Carbon	mg/l						
Total Organic Carbon	mg/l			<1.0	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l						
Ethane	ug/l			<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3
Methane	ug/l			79	<2	<2	<2

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW18A																				
				May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02 Dup	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06	Nov-06		
Alkalinity	mg/l			556	731	576	667	529	466	433	407	390	466	341	337	326	479	486	488	402	377	399	468	
Ammonia (as N)	mg/l			1.8	2.5	4.1	3	3.1	2.3	1.5	1.5	0.93	8.4	0.67	0.86	1.5	0.91	1.2	1.5	1.1	0.93	0.78	0.59	
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			34.4		<10		<10		<10		11.2		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Chloride	mg/l	250		36.1	62.8	68.6	51.4	44.6	37.3	40.4	41.0	33.6	53.9	47.5	47.4	51.2	58.3	45.7	64.6	58.4	68.9	41.0	60.8	
Cyanide	ug/l			<0.02		<0.02		<0.02		<0.02		<0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		
Dissolved Oxygen	mg/l																							
Nitrate	mg/l	10																						
Nitrate + Nitrite	mg/l	10		0.86		<0.05		0.22		0.28		1.1		0.22	0.23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Oil and Grease	mg/l			<5		<5		<5		<5		<5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			-4	-68	-46	-148	-61	-64	-30	-39	-355R	-14.8	-62.9	-63.4	-66.7	-80.4	-122.3	-60.6	-23.3	-20.2			
Phosphorus (Total)	mg/l			0.03		<0.02		<0.02		<0.01		<0.01		0.016	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.024	0.046
pH	S.U.	6.5-8.5		6.48	6.73	6.60	6.65	6.70	6.82	6.74	6.70	6.56	6.83	6.71	6.72	7.09	6.59	6.58	6.52	6.83	6.85	6.80		
Specific Conductance	um/cm			991	1190	1350	1320	1070	980	982	1220	1050	1166	966	1057	1312	1229	878	1249	1214	1171	1196		
Sulfate	mg/l	250		25	21.8	49.7	131	137	179	160	147	124	124	108	108	136	169	138	81.0	135	124	191	101	
Sulfide	mg/l			<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		
Total Dissolved Solids	mg/l	500		651																				
Dissolved Organic Carbon	mg/l			3.4	5.6	3.6	5.2	5.5	5.7	5.5	4.3	3.8	7.1	19.5	4.4									
Total Organic Carbon	mg/l			3.1	4.5	3.3	5.1	5.5	5.1	6.2	3.3	4.0	5.9	3.9	3.7	1.5	4.7	2.2	4.8	3.7	5.1	1.6	2.1	
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4	<4	<4	<4,000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<19	<4J	<19	<4	<4	<4,7		
Ethene	ug/l			<3	<3	<3	<3,000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<9.8	<3J	<9.8	<3	<3	<3		
Methane	ug/l			210	360	<2	120	48	26	39	27	9.6	32	5.9	5.7	12	76	230	14J	49	8.8	<2	54	

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

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ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW18A (cont'd)																						
				May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	May-16	Oct-16	May-17	Oct-17	
Alkalinity	mg/l			453	446	446	449	483	447	446	558	443	473	490	479	460	513	555	552B	488	655	604	513B	494B	514	
Ammonia (as N)	mg/l			0.69	0.99	0.66	1.2	1.4	1.39	0.901	1.58	0.74	1.1	1.0	1.7	0.9	1.3	1.6	1.9	1.4	1.3	1.1	1.5	1.8	2.0	
Biological Oxygen Demand	mg/l																									
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10 UJ	<10	<10	<10	12.7	<10	<10	16.6J-	23.1	12.4	10.3	18.3	<10	<10	<10	<10	<10	<10	<10	
Chloride	mg/l			250	39.0	66.2	32.7	65.9	60.0	78.1	62.9	74.9	42.7J-	99.2	59.0	97.3	54.7	96.4	55.2	85.7	66.7	73.0	59.4	90.2	94.4	101
Cyanide	ug/l	200																								
Dissolved Oxygen	mg/l																									
Nitrate	mg/l	10																								
Nitrate + Nitrite	mg/l	10																								
Oil and Grease	mg/l																									
Ortho-Phosphate (Total)	mg/l																									
Oxidation Reduction Potential	mV																									
Phosphorus (Total)	mg/l																									
pH	S.U.	6.5-8.5																								
Specific Conductance	um/cm																									
Sulfate	mg/l	250																								
Sulfide	mg/l																									
Total Dissolved Solids	mg/l	500																								
Dissolved Organic Carbon	mg/l																									
Total Organic Carbon	mg/l																									
Total Suspended Solids	mg/l																									
Ethane	ug/l																									
Ethene	ug/l																									
Methane	ug/l																									

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW18B																					
				May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06	Nov-06	May-07		
Alkalinity	mg/l			335	315	328	344	331	348	328	303	310	324	245	287	341	311	256	345	278	190	282			
Ammonia (as N)	mg/l			0.04	<0.020	0.026	<0.020	0.05	<0.020	0.062	<0.020	0.033	0.061	<0.020	<0.020	0.038	0.048	0.13	0.064	0.063	0.052	0.039	0.057		
Biological Oxygen Demand	mg/l																								
Chemical Oxygen Demand	mg/l			24.4		<10		<10		<10		<10		<10		<10		<10		<10		<10			
Chloride	mg/l		250		50.6	47.6	51.1	51.2	50.5	49.9	51.4	50.2	52.6	48.7	50.0	59.2	49.7	50.4	54.0	54.2	52.9	55.8	55.9	57.9	
Cyanide	ug/l	200			<0.02				<0.02				<0.02												
Dissolved Oxygen	mg/l				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00R	0.05	0.10	0.10	0.00	0.06	1.4R	0.15	0.14	0.41	0.15	0.09	
Nitrate	mg/l	10			<0.050			<0.050		<0.050		<0.05		<0.050		<0.05									
Nitrate + Nitrite	mg/l	10			<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		
Oil and Grease	mg/l				<5		<5		<5		<5		<5		<5		<5		<5		<5				
Ortho-Phosphate (Total)	mg/l																								
Oxidation Reduction Potential	mV				-121	-146	-153	-153	-136	-150	-107	-117	-305R	-48.6	-124.7	-112.7	-115.0	-128.3	-167.0	-106.6	-76.8	-79.2	-107.4		
Phosphorus (Total)	mg/l				<0.02		<0.02		<0.02		<0.01		<0.01		<0.01		<0.01		<0.01		<0.01		<0.010		
pH	S.U.	6.5-8.5			7.04	7.26	7.23	7.22	7.38	7.23	7.24	7.16	6.95	7.37	7.06	7.21	7.58	7.03	7.11	7.04	7.30	7.36	7.55	7.09	
Specific Conductance	um/cm				765	936	829	709	688	709	727	835	872	809	735	812	758	827	641	850	832	821	847	846	
Sulfate	mg/l	250			66.4	60.2	61.9	61.2	56.3	55.4	56.9	57.5	57.6	53.9	56.4	66.6	58.5	57.3	58.7	60.9	60.7	57.3	58.6	57.8	
Sulfide	mg/l				<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0			
Total Dissolved Solids	mg/l	500			608		383		463		470		566		459		477		501		468		430		459
Dissolved Organic Carbon	mg/l				1.3	2.4	<1	2.0	3.1	3.3	1.6	1.0	1.6	2.6	2.5										
Total Organic Carbon	mg/l				<1	<1	<1	1.6	1.7	2.2	1.7	<1.0	1.6	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.4	<1.0	<1.0	<1.0	
Total Suspended Solids	mg/l																								
Ethane	ug/l				<4	<4	<4	<4.000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4J	<4	<4	<4	<4		
Ethene	ug/l				<3	<3	<3	<3.000	<3	<3	6.0	<3	<3	<3	<3	<3	<3	<3	<3J	<3	<3	<3	<3		
Methane	ug/l				28	14	34	32	15	25	30	6.3	4.6	6.9	<2	7.8	4.7	30	7.3J	13	15	14	8.4	5.6	

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ON NEXT PAGE

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW18B (cont'd)																				
				Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	May-16	Oct-16	May-17	Oct-17
Alkalinity	mg/l			314	316	355	353	315	341	331	316	286	325	313	323	336	369B	312B	307	366B	308	335B	310B	321
Ammonia (as N)	mg/l			0.079	0.059	0.12	0.074	0.054	0.046	0.048	<0.20	0.066	0.056	0.068	0.059	0.051	0.061J+	0.053	0.057	0.059	<0.020	0.046 J-	0.021	0.037
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			<10	<10	<10 UJ	<10	11.4	<10	<10	<10	<10	<10	<10	<10	<10	11.3	13.8	<10	<10	<10	<10	<10	<10
Chloride	mg/l			57.8	54.1	60.0	59.0	56.0	59.9	59.1	60.6J-	60.1	56.4	58.2	60.8	63.2	59.2	70.1	65.7	66.2	65.2	64.1	67.3	70.0
Cyanide	ug/l	200																						
Dissolved Oxygen	mg/l																							
Nitrate	mg/l	10																						
Nitrate + Nitrite	mg/l	10																						
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			-62.3	-106.5	-94.0	-103.4	-117.0	-80.8	-110.0	-37.5	-116	-42	-140	-79	-55.1	-81.3	-64.2	-85.3	-95.5	-63.9	-69.5	-96.8	-79.1
Phosphorus (Total)	mg/l			<0.010	<0.010	<0.010	<0.010	<0.0100	<0.010	<0.010	<0.010	0.18	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	S.U.	6.5-8.5		7.21	7.17	7.36	7.11	7.07	6.37	7.03	7.23	7.24	7.24	7.18	7.29	7.19	7.23	7.15	7.20	7.16	6.99	7.25	7.25	
Specific Conductance	um/cm			859	910	805	796	882	711	831	830	795	772	840	848	880	966	946	927	987	883	976	938	837
Sulfate	mg/l	250		60.4	58.1	55.5	54	51.3	49.9	82.9	50.3J-	48.5	43.9	45.5	46.9	47.5	46.4	49.6	44.7	45.4	44.3	43.5	45.8	48.9
Sulfide	mg/l																							
Total Dissolved Solids	mg/l	500		492	492	514	491	433	450	514	478	457	416	383	522	502	467	534	448	518	464	417	468	487
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l			1.8	<1.0	<1.0	<1.0	1.4	1.2	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	
Methane	ug/l			6.8	6.0	<2	3.5	3.1	3.4	2.7	<2	<2	4.3	<2	<2	2.3	<2	<2	<2	<2	<2	<2	<2	

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW19A																			
				Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	Mar-05	May-05	Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10
Alkalinity	mg/l			403	400	411	290	223	372	357	429		368	310	380	360	425	371	490	423	438	456	496
Ammonia (as N)	mg/l			5.0	4.9	4.3	5.0	<0.020	4.0	3.3	3.9		3.7	1.2	1.5	1.8	3.2	3.0	2.6	3.0	2.44	6.85	4.61
Biological Oxygen Demand	mg/l																						
Chemical Oxygen Demand	mg/l																						
Chloride	mg/l																						
Cyanide	ug/l	200																					
Dissolved Oxygen	mg/l																						
Nitrate	mg/l	10																					
Nitrate + Nitrite	mg/l	10																					
Oil and Grease	mg/l																						
Ortho-Phosphate (Total)	mg/l																						
Oxidation Reduction Potential	mV			-65	-128	-317R	-67.2	59.9	-88.6	-98.1	-66.1	-81.4	-85.5	-64.2	-54.4	-73.6	-78.7	-53.9	-46.1	-102.2	-47.3	-102.8	-29.5
Phosphorus (Total)	mg/l																						
pH	S.U.	6.5-8.5		6.77	6.65	6.91	6.83	7.17	7.25	6.74	6.49	6.96	6.82	7.10	6.81	7.31	7.00	6.90	6.75	7.02	6.86	6.85	6.62
Specific Conductance	um/cm			1220	1290	1100	1103	683	1143	1169	907		1260	876	1182	1000	930	1064	1183	895	1026	1006	865
Sulfate	mg/l	250		41.0	82.7	47.2	65.5	63.4	73.8	85.5	58.4		117.0	56.5	85.3	49.5	49.3	43.9	54.3	27.0	77.0	40.2	105.0
Sulfide	mg/l			<2.0	<2.0	<2.0	<2.0	<2.0	<2.0														
Total Dissolved Solids	mg/l	500																					
Dissolved Organic Carbon	mg/l			4.1	5.0	5.7	5.9																
Total Organic Carbon	mg/l			4.4	4.1	5.2	3.4	1.3	4.5	3.1	4.3		4.1	3.6	2.8	2.9	2.8	4.2	3.7	2.3	3.3	4.6	3.1
Total Suspended Solids	mg/l																						
Ethane	ug/l			<4	<4	<4	<4	<4	<4.7	<4.7	<4.7		<4.7	<4.7	<4	<4	<4	<4	<4	<30	<30	<30	
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3		<3	<3	<3	<3	<3	<3	<3	<30	<30	<30	
Methane	ug/l			51	19	49	23	14	73	99	29		74	41	75E 92D	38	52	28	220	22	23	200	120

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.

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ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW19A (cont'd)														
				Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	May-16	Oct-16	May-17	Nov-17
Alkalinity	mg/l			572	476	469	478	490	464	542	557	492	468	562	542	555B	349B	589
Ammonia (as N)	mg/l			6.81	5.60	6.50	6.70	6.70	3.40	6.2	5.8	7.6	4.4	5.4	3.6	7.7	0.56	5.3
Biological Oxygen Demand	mg/l																	
Chemical Oxygen Demand	mg/l			15.0	<10	13.0	<10	<10	12.0	14.6	22.3	19.9	11.3	11.0	<10	10.6	<10	15.3
Chloride	mg/l	250	200	84.6	68.8	95.6	92.0	111.0	58.0	101	81	102	66.8	99.7	81.3	90.9	35.4	103
Cyanide	ug/l																	
Dissolved Oxygen	mg/l			0.03	0.56	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.02	0.02
Nitrate	mg/l	10		<0.050	<0.050	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	1.800	<0.050
Nitrate + Nitrite	mg/l	10			<0.050	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	1.800	<0.050
Oil and Grease	mg/l																	
Ortho-Phosphate (Total)	mg/l																	
Oxidation Reduction Potential	mV			-82	45.3	-66	-87	-106	-25.9	-27.2	-47.4	-48.3	-52.1	-34	-35.2	-63.7	43.6	-66.5
Phosphorus (Total)	mg/l																	
pH	S.U.	6.5-8.5		6.59	6.89	6.77	6.71	6.78	6.83	6.83	6.85	6.81	6.93	6.95	6.72	6.77	6.88	6.88
Specific Conductance	um/cm			1217	1110	1192	1230	1261	1113	1184	1304	1370	1208	1396	1270	1356	826	1206
Sulfate	mg/l	250		37.2	107.0	10.3	38.2	24.5	53.2	18.1	37.8	23.9	59.1	33.1	30.5	<25	38.4	<25
Sulfide	mg/l																	
Total Dissolved Solids	mg/l	500																
Dissolved Organic Carbon	mg/l																	
Total Organic Carbon	mg/l			5.4	4.1	3.4	2.7	5.2	1.8	4.3	3.6	4.5	3.5	4.6	3.5	4.6	2	4.2
Total Suspended Solids	mg/l																	
Ethane	ug/l			<30	<80	<4	<4	<4	<4	4.2	<4	<4	<4	<4	<4	<20	<4	<44
Ethene	ug/l			<30	<60	<3	<3	<3	<3	<3	<3	<3	<3	<3	<15	<3	<33	
Methane	ug/l			91	56	<200	110	85	50	180	49	44	130	170	200	28	57	460

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW20A																			
				Feb-02	May-02	Aug-02	Aug-02 Dup	Nov-02	May-03	Nov-03	May-04	Nov-04	Mar-05	May-05	Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09
Alkalinity	mg/l			462	459	480	475	357	249	426	369	477		379	400	414	407	375	442	445	443	311	471
Ammonia (as N)	mg/l			3.1	3.5	5.7	4.0	3.7	2.3	2.7	2.5	3.0		2.8	3.1	1.3	1.5	2.4	2.1	2.1	2.5	1.97	2.27
Biological Oxygen Demand	mg/l																						
Chemical Oxygen Demand	mg/l																						
Chloride	mg/l																						
Cyanide	ug/l	200		67.1	81.8	84.0	82.8	86.0	52.8	96.7	89.8	90.3		83.4	92.1	69.0	91.5	68.9	68.3	57.5	69.2	53.0	61.7
Dissolved Oxygen	mg/l																						
Nitrate	mg/l	10																					
Nitrate + Nitrite	mg/l	10																					
Oil and Grease	mg/l																						
Ortho-Phosphate (Total)	mg/l																						
Oxidation Reduction Potential	mV			-84	-120	-342R		-50.9	-94.0	-93.5	-98.5	-85.4	-79.5	-92.7	-95.2	-55.4	-76.8	-77.8	-50.4	-52.6	-73.9	-84	-97.7
Phosphorus (Total)	mg/l																						
pH	S.U.	6.5-8.5		6.59	6.61	6.76		6.61	6.96	7.10	6.62	6.53	6.93	6.72	6.95	6.77	7.23	6.95	6.79	6.68	6.92	6.97	6.81
Specific Conductance	um/cm			1280	1380	1222		1236	821	1230	1300	1036		1290	1276	1245	1134	960	1142	1154	960	841	1037
Sulfate	mg/l	250		74.7	90.0	78.7	78.4	73.8	83.0	83.1	81.2	88.6		91.9	76.6	145.0	49.0	77.2	59.3	93.6	46.3	50.0	63.5
Sulfide	mg/l			<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0													
Total Dissolved Solids	mg/l	500																					
Dissolved Organic Carbon	mg/l			4.5	5.6	6.1	6.0	5.9															
Total Organic Carbon	mg/l			4.2	4.8	5.5	5.3	4.5	<1.0	4.2	3.5	4.9		3.9	4.5	2.9	3.2	2.4	4.6	3.2	2.0	2.5	4.4
Total Suspended Solids	mg/l																						
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<9.4	<80	<9.4		<4	<4	<4	<4.7	<4	<4	<4	<4	<15	<15
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<4.9	<60	<4.9		<3	<3	<3	<3	<3	<3	<3	<3	<15	<15
Methane	ug/l			68	47	74	48	54	20	98	130	26		37	89	44E	62	100	36	75	22	12	26

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.

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ON NEXT PAGE

TABLE M-3.
WET CHEMISTRY ANALYTICAL RESULTS
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO

Parameter	Units	MCL	Secondary Standard	MW20A (cont'd)															
				May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	May-16	Oct-16	May-17	Nov-17
Alkalinity	mg/l			383	276	350	451	446	435	399	509	494	504B	464	566	477	543	337B	533
Ammonia (as N)	mg/l			1.33	1.82	1.60	1.8	2.0	2.1	2.1	1.8	2.4	2.5	2.4	2.3	2.2	3.0	1.9	2.1
Biological Oxygen Demand	mg/l																		
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10	<10UJ	<10	14.9	15.7	18.3	<10	<10	<10	<10	<10	12.3
Chloride	mg/l	250	200	49.9	57.1	61.2	89.4	67.5	75.5	51.7	92.9	77.8	89.0	79.4	81.4	62.8	82.7	47.6	80.3
Cyanide	ug/l																		
Dissolved Oxygen	mg/l			0.00	0.01	0.44	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Nitrate	mg/l	10		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrate + Nitrite	mg/l	10																	
Oil and Grease	mg/l																		
Ortho-Phosphate (Total)	mg/l																		
Oxidation Reduction Potential	mV			-65.9	-102	45.3	-87	-77	-115	-63.3	-47.1	-60.1	-55.1	-67.7	-71.4	-51.2	-58.8	-94.6	-67.9
Phosphorus (Total)	mg/l																		
pH	S.U.	6.5-8.5		6.72	6.74	7.00	6.75	6.73	6.77	6.84	6.82	6.85	6.72	6.94	6.87	6.77	6.66	6.89	6.80
Specific Conductance	um/cm			665	831	870	1223	1143	1142	1000	1207	1326	1356	1194	1359	1155	1341	848	1072
Sulfate	mg/l	250		58.0	63.0	74.9	58.6	51.9	58.4	96.9	39.6	39.6	21.5	32.2	23.2	21.7	19.7	32.6	22.8
Sulfide	mg/l																		
Total Dissolved Solids	mg/l	500																	
Dissolved Organic Carbon	mg/l																		
Total Organic Carbon	mg/l			2.4	2.9	2.7	2.4	1.9	<1.0	1.6	3.0	3.2	3.2	3.3	3.4	2.9	3.5	1.7	2.9
Total Suspended Solids	mg/l																		
Ethane	ug/l			<15	<15	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<15	<15	<3	5.1	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			31	9.5	8.8	48	62	32	13	39	120	29	85	140	140	78	27	55

E = Concentration exceeded the calibration range
of the instrument.

D = Analytical result after sample dilution.